NOS 2

Tape Management System (TMS)

Site Operations Manual

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Manual History

Revision	Description
A (01-10-86)	Manual released; reflects NOS 2.4.1 at PSR level 630.
B (10-29-86)	Revision B reflects NOS 2.5.1 at PSR level 664. This revision incorporates changes for the catalog error checking feature and the unconditional release date feature.
C (09-23-87)	Revision C reflects NOS 2.5.3 at PSR level 688. This revision changes the name of the tape display utility from LDISTAD to TMSDIS, changes the account dayfile messages associated with TMS, and includes support of the 887 disk.
D (06-26-92)	Revision D reflects NOS 2.7.4 at PSR level 797. This revision incorporates changes for the 5680 Cartridge Tape Subsystem (CTS) and the 5744 Automatic Cartridge Subsystem (ACS).

Revision letters I, O, Q, S, X, and Z are not used.

Alphabetical List of Commands

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About This Manual

This manual describes magnetic tape operations on a system using the NOS Tape Management System (TMS). TMS can operate on the following systems:

CONTROL DATA® CYBER 180 Computer Systems

Models 810, 830, 835, 840, 845, 850, 855, 860, 870, 960, 970, 990, 994, and 995

CONTROL DATA CYBER 170 Computer Systems

Models 171, 172, 173, 174, 175, 176, 720, 730, 740, 750, 760, 815, 825, 835, 845, 855, 865, and 875

CONTROL DATA CYBER 70 Computer Systems

Models 71, 72, 73, and 74

CONTROL DATA 6000 Computer Systems

Audience and Organization

This manual is written for a tape librarian or individuals at the central site who are responsible for managing tapes. It should be used in conjunction with the NOS central site manuals: the Administration Handbook, Analysis Handbook, Installation Handbook and Operations Handbook.

Section 1 provides general information about TMS. Section 2 describes how to initiate MAGNET and enable TMS. Section 3 describes the tape file supervisor (TFSP). Section 4 describes the tape display utility provided by TMS. Section 5 describes the procedures that allow you to perform various functions with a tape catalog file.

Conventions

Unless otherwise stated, it is assumed that you are using the batch subsystem when you enter commands from an interactive terminal.

Uppercase characters within command formats are interpreted literally. Lowercase characters are variables and are described immediately following the line that shows the command format.

New features, as well as changes, deletions, and additions to this manual, are indicated by vertical bars in the margins.

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There is a comment sheet at the back of this manual. You can use it to give us your opinion of the manual's usability, to suggest specific improvements, and to report errors. If the comment sheet has already been used, mail your comments to:

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Related Publications

The following manuals contain additional information about NOS that may prove useful to you. These manuals are available through Control Data sales offices or Control Data Literature Distribution Services, 4201 Lexington Avenue N., St. Paul, MN 55126-6198.

Manual Title	Publication Number
NOS Version 2 Tape Management System User Reference Manual	60463110
NOS Version 2 Administration Handbook	60459840
NOS Version 2 Analysis Handbook	60459300
NOS Version 2 Installation Handbook	60459320
NOS Version 2 Operations Handbook	60459310
NOS Version 2 Reference Set, Volume 3, System Commands	60459680
NOS Version 2 Reference Set, Volume 4, Program Interface	60459690
NOS Version 2 Security Administrator's Handbook	60460410

You might also want to consult the NOS System Information Manual. It is an online manual that includes brief descriptions of all NOS and NOS product manuals. You can access this manual by logging into NOS and simply entering the command EXPLAIN.

Disclaimer

This product is intended for use only as described in this document. Control Data cannot be responsible for the proper functioning of undescribed features or undefined parameters.

Introduction 1

Introduction 1

The NOS Tape Management System (TMS) is a software subsystem that allows a computer center and its users to efficiently manage magnetic tape usage. TMS commands permit tape owners to select security options and permit alternate users to access their tapes. TMS establishes a database of available tapes, tape owners, and alternate user access permission. The database keeps track of what users own specific tapes and enforces the security options tape owners select. TMS commands also simplify the user's tape processing interface.

TMS consists of eight user commands: six new commands and two changed NOS commands. Four NOS tape handling commands are not needed with TMS. Table 1-1 lists TMS and NOS commands and their relationships. TMS maintains compatibility with the standard NOS commands by allowing non-TMS processing. The differences between non-TMS tape processing and TMS tape processing are described briefly in the following paragraphs.

Table 1-1. TMS Commands Versus Standard NOS Tape Commands

TMS Commands	NOS Commands[1]	Notes
ADMIT	—	Added by TMS.
AMEND	—	Added by TMS.
—	ASSIGN	Not used with TMS.
AUDIT	—	Added by TMS.
—	BLANK	Not used with TMS.
LABEL	LABEL	Changed by TMS.
RECLAIM	RECLAIM	Changed by TMS.
RELEASE	—	Added by TMS.
RESERVE	—	Added by TMS.
—	REQUEST	Not used with TMS.
TMSDEF	—	Added by TMS.
—	VSN	Not used with TMS.

1. Other NOS commands that apply to magnetic tape operations, such as LISTLB, RESOURC, RETURN, TCOPY, and UNLOAD are unchanged by TMS and are described in the NOS 2 Reference Set, Volume 3.

Non-TMS Tape Processing

When the system is run with TMS disabled, you cannot use the tape file supervisor (TFSP) and users cannot issue TMS commands. When a user is running without TMS processing, the operator is required to verify, mount, and assign tapes requested by the user.

TMS Tape Processing

TMS allows users to create and access tape files. When the system is run with TMS enabled, users can choose to run with or without TMS processing. When a user is running with TMS processing, the system automatically assigns scratch tapes and verifies that the user is allowed to access the requested tapes. When a user is running without TMS processing, the operator is required to verify, mount, and assign tapes requested by the user.

You can use the tape file supervisor (TFSP) to create, update, and manage the TMS tape catalog file. The TFSP command can be used to create, update, and obtain information from the tape catalog file. TFSP can access the family tape catalog file only if it is called from a system origin job or from a job that has a user name that has been validated to access the file.

You can use the tape display utility (TMSDIS) as a replacement for the NOS DSD displays and commands for a system that runs with TMS. TMSDIS can be used as an L-display utility from the system console or from non-system origin jobs by validated users.

The following five TMSDIS displays allow you to display tape equipment and TMS catalog information:

TMSDIS Display	Function
Help Display	Lists input commands.
Tape Equipment Display	Lists the status of each tape equipment on the system.
Executing Job Display	Identifies jobs that have made tape requests.
Family Catalog Display	Lists the information for each family's tape catalog.
Preview Display	Identifies tapes and packs required to satisfy a user's resource requests.

Initiating the Magnetic Tape Executive   2

The magnetic tape executive, MAGNET, can be initiated by a DSD command at the system console. For example, if the command

```
MAGffff.
```

is issued at the console, the system attempts to get the indirect access permanent file MAGffff (where ffff is an optional, 1- to 4-character, site-defined suffix) from the system user index and execute it as a procedure.

If the indirect access permanent file is not found, the system attempts to execute the system procedure MAGffff.

If the AUTO or MAINTENANCE command is issued while MAGNET is enabled, the system automatically issues the following command:

```
MAG.
```

To initiate the magnetic tape executive, the procedure should issue the MAGNET command and should have EXIT processing so that the MAGNET1 command is called in case MAGNET aborts.

The system procedure MAG contains the following commands:

```
TMSON,FM=*,DEFTO=TC,DEFTOS=FC.
MAGNET.
MAGNET1.
EXIT.
MAGNET1.
```

Enabling TMS

TMS is disabled by default when a system is deadstarted. TMS is enabled when ENABLE,TMS is specified in the IPRDECK. TMS is also enabled if the TMSON command is included in the procedure that initiates the magnetic tape executive. Once TMS is enabled, it cannot be disabled without deadstarting the system.

Running with TMS Disabled

When a system is run with TMS disabled, users cannot issue TMS commands (such as AUDIT and RESERVE), you are not able to use the tape file supervisor (TFSP), and the TMS parameters (such as UN and TO) on the LABEL and REQUEST commands are ignored.

Running with TMS Enabled

When a system is run with TMS enabled, a user can choose whether a tape request should be run with or without TMS processing. This is done by way of the TO parameter on a LABEL or REQUEST command. The site can specify the default for the TO parameter on the LABEL and REQUEST commands using the TMSON command. In addition, the site can specify that system origin and nonsystem origin jobs have different defaults for the TO parameter. The user can override the system default for the TO parameter using the TMSDEF command.

When a user is running with TMS processing, the system automatically assigns scratch tapes and verifies that the user is allowed access to requested tapes. Generally, the operator mounts only the tapes listed by the executing job.

When a user is running without TMS processing, the operator is required to verify, mount, and assign tapes requested by the user.

TMS Commands

Two TMS commands control the enabling or disabling of TMS:

TMSON

TMSOFF

TMSON Command

The TMSON command can be called from system origin jobs to enable TMS for the system, to turn on TMS tape catalog files for families on the system, and to define default TMS parameter values for the LABEL and REQUEST commands (refer to the NOS 2 Tape Management System User Reference Manual).

Format:

```
TMSON,FM=fname,DEFTO=nopt,DEFTOS=sopt.
```

Parameter	Description
FM=fname or FM=*	Family name of TMS catalog to turn on. If a specific family name is used and the TMS catalog for that family cannot be turned on, TMSON aborts. If an asterisk (*) is used, TMSON attempts to turn on the TMS catalogs on all families of the system. An informative message is issued if TMSON cannot turn on a TMS catalog for a family. This parameter is required.

Parameter	Description
DEFTO=nopt	Identifies the default tape option (the TO parameter) for LABEL and REQUEST commands for nonsystem origin jobs. This parameter can be specified only if the calling job is running with the subsystem identification of MAGNET (MTSI). Valid entries for nopt are:

T

Sets the default to TO=T (TMS processing).

F

Sets the default to TO=F (non-TMS processing).

C

Sets the default to TO=C (check for catalog error).

E

Sets the default to TO=E (ignore catalog error).

If this parameter is not specified, TMSON does not change the default tape option. A user can change the default tape option for a job by using the TMSDEF command.

DEFTOS=sopt	Identifies the default tape option (the TO parameter) for LABEL and REQUEST commands for system origin jobs. This parameter can be specified only if the calling job is running with the subsystem identification of MAGNET (MTSI). Valid entries for sopt are:

T

Sets the default to TO=T (TMS processing).

F

Sets the default to TO=F (non-TMS processing).

C

Sets the default to TO=C (check for catalog error).

E

Sets the default to TO=E (ignore catalog error).

If this parameter is not specified, TMSON does not change the default tape option. A user can change the default tape option for a job using the TMSDEF command.

If TMSON is called from a job with the subsystem identification of MAGNET (MTSI), TMSON enables TMS for the system. TMS must already be enabled if TMSON is called from a job that does not have the subsystem identification of MAGNET.

NOTE

The TMSON command fast-attaches the tape catalog on a family. If you need to initialize or unload a device with a fast-attached tape catalog, issue the TMSOFF command to take the tape catalog out of fast-attached status.

TMSOFF Command

The TMSOFF command can be called from system origin jobs to turn off TMS tape catalog files for a specific family or for all families on the system.

Format:

```
TMSOFF,FM=fname.
```

Parameter	Description
FM=fname or FM=*	Family name of TMS catalog to turn off. If a specific family name is used and the TMS catalog for that family cannot be turned off, TMSOFF aborts. If an asterisk (*) is used, TMSOFF attempts to turn off the TMS catalogs on all families of the system. An informative message is issued if TMSOFF cannot turn off a TMS catalog for a family. This parameter is required.

A TMS catalog can be turned off only if there is no activity on the specified family.

Tape File Supervisor

The tape file supervisor (TFSP) includes the TFSP command, TFSP input/source file directives, TFSP audit directive output formats, and TFSP machine-readable file formats.

TFSP Command

TFSP creates and manages the tape catalog file. The TFSP command creates, updates, and obtains information from the tape catalog file. TFSP directives can be entered by a local file, command comment field, or K-display entry. Information on the tape catalog file can be written to local files, the K display, or terminal.

TFSP can manipulate either the family tape catalog file (a fast-attached file named ZZZZZFC on user index 377777$_8$) or local file images of the tape catalog file.

TFSP can access the family tape catalog file only if it is called from a system origin job or if it is called from a job that has a user name that has been validated to access the file. Only one TFSP job can access a tape catalog file of a family at one time. However, several TFSP jobs can access tape catalog files of different families at the same time.

Format:

```
TFSP(p1,p2,...,pn) Z option directives
```

where each parameter is a keyword or a keyword equated to a value.

pi	Description
I = infile	Input file containing TFSP directives. Ignored if you specify OP = K or OP = Z. If I = 0, no input file is used. Default is I = INPUT.
L = outfile	Output file. TFSP lists input directives, errors encountered, and information as specified by the audit directives (AUDITUN, AUDITVS, AUDITCN, AUDITFI, AUDITFV, and AUDITAU). If L = 0, no output file is generated. Default is L = OUTPUT.
.P = oldfile	Old tape catalog file. Ignored except for local file (LF) mode. If P = 0, a new tape catalog file is created. Default is P = OLD.
N = newfile	New or updated tape catalog file. Ignored except for local file (LF) mode. If P = 0, the default is N = NEW. If P = oldfile, the default is N = oldfile.
S = sourcefile	Source file to receive TFSP input directives generated from information on the tape catalog file. The source file is generated by the source directives (SOURCE, SOURCUN, SOURCVS, SOURCCN, SOURCFI, and SOURCFV). If S = 0, no source file is generated. Default is S = SOURCE.
SS = mrfile	Machine-readable file. TFSP lists information to mrfile in machine-readable format as specified by the machine-readable audit directives (MREADUN, MREADVS, MREADCN, MREADFI, and MREADFV). If SS = 0, no machine-readable file is generated. Default is SS = 0.

pi	Description
OP=option	Specifies the input mode for directives. Valid entries are: I Read TFSP directives from the file specified by the I parameter. K Read TFSP directives from K-display input. Display tape catalog file information at the K display. Valid only for system origin jobs. Z Read TFSP directives from the delimited string following the command terminator. The first character following the terminator is assumed to be the delimiter. Default is OP=I.
LF	Local file mode. If specified, TFSP accesses and updates the local files specified by the P and N parameters. If not specified, TFSP accesses and possibly updates the fast-attached file ZZZZZFC on user index 377777$_8$. For nonsystem origin jobs, if the LF parameter is not specified, TFSP aborts if the user is not validated to access the family tape catalog file using the VALIDAT directive.
A	Abort mode. If specified, TFSP aborts when the first error is encountered while processing the directives. If not specified, TFSP issues an error message to the output file and dayfile but continues processing with the directives on the next line of input. Abort mode is usually selected when TFSP is run with noninteractive input such as running TFSP in a batch origin job. Abort mode is usually not selected when TFSP is run with interactive input such as running TFSP with the K-display or from an interactive terminal.
NV	No verify mode. Ignored except for local file (LF) mode or if not creating new tape catalog file (P=0). If specified, TFSP does not check the status of VSNs specified by the VSN directive, tape files specified by the FILE or FILEV directive, or alternative users specified by the AUSER directive. This can speed processing of large TFSP input files. However, this can also create errors in the tape catalog file if the input file is set up incorrectly.
RT	Retry on catalog interlock option. Ignored for local file (LF) mode. If specified, TFSP does not abort if the fast-attached tape catalog file is interlocked by another TFSP job. TFSP waits until the other job is complete so it can access the tape catalog file. Generally, the retry option is selected when TFSP is run in a procedure file or in a batch origin job.
FM=family	Family on which the tape catalog file resides. Invalid entry for a nonsystem origin job or if in local file (LF) mode. Default is the family of the calling job. A nonsystem origin job is forced to access the tape catalog file for its family.

Examples of TFSP Use

The following examples show how a site might use TFSP under control of DIS.

Example 1

This example creates a tape catalog file for family FAM based on directives in file IFILE.

```
FAMILY,FAM.
SUI,377777.
TMSOFF,FM=FAM.
PURGE,ZZZZZFC/NA.
RETURN,ZZZZZFC.
DEFINE,NEW=ZZZZZFC.
TFSP(OP=I,I=IFILE,LF,P=0)
RETURN,NEW.
TMSON,FM=FAM.
```

Example 2

This example shows how TFSP can act as a tape file counterpart of PFDUMP by using source directives. The source file can then be used as an input file to be the counterpart to PFLOAD. The catalog entries for the tape files of user name USER1 are dumped and purged from family ABC and loaded onto family XYZ.

```
TFSP(OP=Z,S=DUMP,FM=ABC)/SOURCUN=USER1/PURGALL=USER1
REWIND,DUMP.
TFSP(OP=I,I=DUMP,FM=XYZ)
```

Example 3

This example restructures the tape catalog file on family FAM. When a large number of entries have been created, updated, and deleted from the tape catalog file, the physical structure of the tape catalog file may have changed to an extent to cause a negative impact on system performance. Like the MODVAL validation file, the tape catalog file can be taken back to source and then recreated to obtain optimum file structure.

```
FAMILY,FAM.
SUI,377777.
TMSOFF,FM=FAM.
ATTACH,OLD=ZZZZZFC/M=W.
TFSP(OP=Z,LF,S=SFILE)/SOURCE
RENAME,NEW=OLD.
REWIND,SFILE.
TFSP(OP=I,I=SFILE,LF,P=0,NV)
RETURN,NEW.
TMSON,FM=FAM.
```

Example 4

The TFSP audit directives provide a counterpart to PFCAT. The audit directives provide information on any or all entries in the tape catalog file. This example shows how a full list of information on each tape file entry in the tape catalog file for family FAM is sent to the printer.

```
TFSP(OP=Z,FM=FAM,L=LIST)/AUDITUN=
ROUTE,LIST,DC=PR.
```

TFSP Input/Source File Directives

TFSP directives are divided into five categories: family level, VSN level, user level, file level, and alternate user level. Figure 3-1 shows which directives can be used on which levels. Generally, higher level directives are valid on lower levels.

Higher level directives that are not honored from a lower level are those which allow immediate updates to be made against VSNs, tape files, or user names other than the one under which the user is currently working (ISV, PURGALL, PURGE, RELEASE, RELEASF, RELEASV, REMOVE).
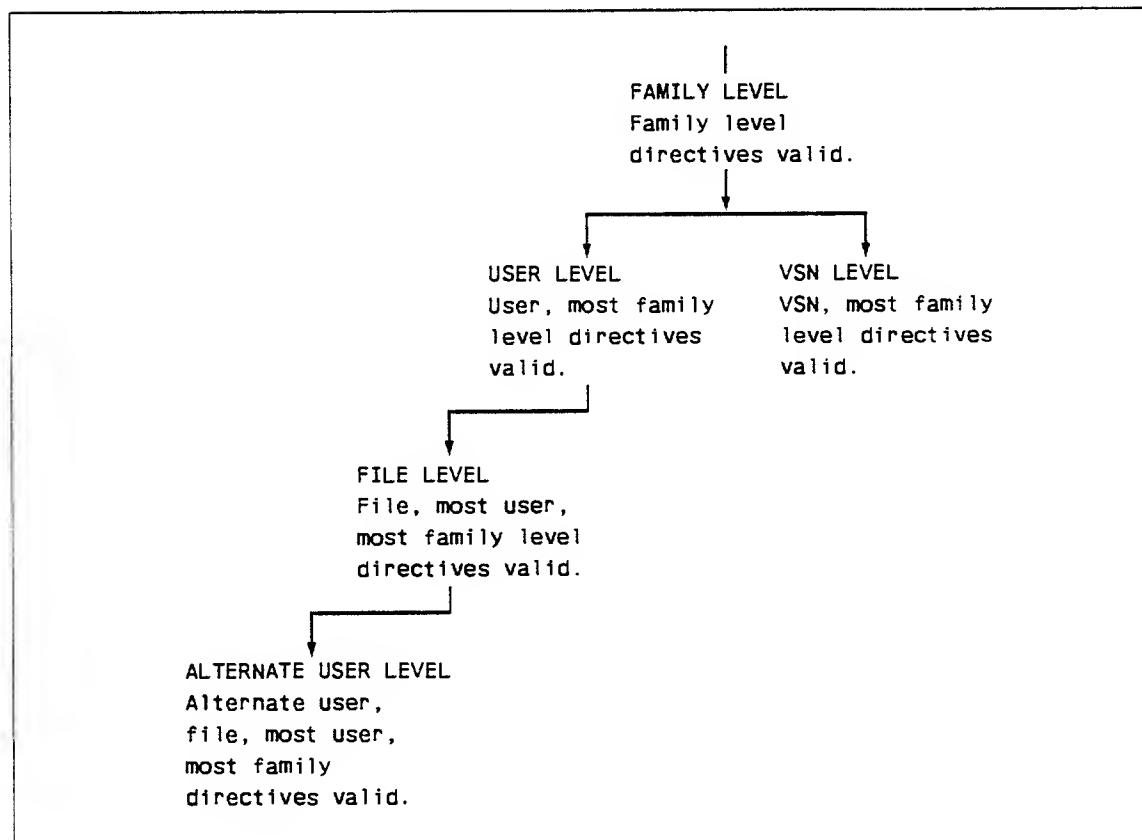
Figure 3-1. Diagram of Level Structure

General Rules for Input Directives

In general, TFSP directives consist of a keyword or a keyword equated to a value.

Each directive line of input is free format through column 72. Any data beyond column 72 is ignored. All numeric data is assumed to be decimal unless a B post-radix is used to specify octal.

The following rules apply to TFSP directives.

- Some TFSP directives consist of a keyword equated to a value. For example:

      VSN=V1

  If the value is not specified, the default value is set if the directive has a default. For example:

      NS=

  is the same as:

      NS=18

  where 18 is the default value for NS.

- Other TFSP directives consist only of a keyword and are not equated. For example:

      HELP

- In general, TFSP directives can be separated by a nonalphanumeric character, an end-of-line, or an end-of-card. For example:

      VSN=V1
      ERRFLAG=SET+OWNER=USER;ADD

  is the same as:

      VSN=V1
      ERRFLAG=SET
      OWNER=USER
      ADD

- Usually, spaces in a TFSP directive input line are ignored. For example:

      VS N = V 1

  is the same as:

      VSN=V1

  However, the PRN, FI, PI, SI, and UC directives accept spaces and all other nonalphanumeric characters as valid input.

- The SEPARAT directive is available to force one nonblank, nonalphanumeric character to be interpreted as a separator. For example:

```
SEPARAT=*
UC=A B,SI=*FA=A
SEPARAT=,
UC=A B,SI=*FA=A
```

is the same as:

```
UC=A B,SI=
FA=A
UC=A B
SI=*FA=A
```

- Entry of a colon character in the input file can cause unpredictable results. The COLON directive is available to force a nonalphanumeric character to be interpreted as a colon. For example:

```
COLON=)
UC=AB)XX
```

is the same as:

```
UC=AB:XX
```

- If a directive keyword is one, two, or three characters long, the entire keyword must be spelled out. If a keyword is more than three characters long, at least the first three characters must be specified plus any additional characters needed to make the directive unique. For example:

```
AUDITV=V1
AUDITU=USER1
VAL=USER2
```

is the same as:

```
AUDITVS=V1
AUDITUN=USER1
VALIDAT=USER2
```

However, VA=USER2 would be invalid because the keyword is less than three characters. AUDIT=V1 would be invalid because the keyword would not be unique.

- Some directives have a specific set of options that can be entered as a value. Only enough characters to uniquely identify the option must be specified as a value. For example:

```
CT=PR
CT=S
CT=PU
```

is the same as:

```
CT=PRIVATE
CT=SPRIV
CT=PUBLIC
```

However, CT=P is invalid because the value is not unique.

Example of Input Directive Stream

```
VSN=V00001
  PRN=VABC
ADD
VSN=T0001A,ADD
USER=USER1
  FILE=FILE1
    CT=PU,CN=CHARGE1
    AVSN=V00001
  RESERVE
  FILEV=T0001A
    M=W
    AUSER=USER2
      AMODE=N
    ADMIT
  AMEND
DROP
USER=USER2
  SOURCCN=CHARGE2
DROP
DROP
```

TFSP Directive Processing Options

The following TFSP directive processing options are available.

Directive	Description
OP=I	TFSP reads the directives from the file specified by the I parameter until an end-of-record, end-of-file, end-of-information, or family level DROP directive is encountered. The file is not rewound before or after TFSP reads it.
	If abort mode (the A parameter) is specified, TFSP aborts on the first error encountered. If abort mode is not specified, TFSP continues processing with the directives on the next line of input.
OP=Z	TFSP reads the directives in the delimited string following the command terminator. The first character following the string is the delimiter and must not appear within any of the directives. The directives may be separated by the delimiter or any valid directive separator. Error processing is the same as for the OP=I option.
OP=K	TFSP reads the directives from K-display input. If a directive error occurs, TFSP issues a message to the K display, ignores the rest of the directives on the input line, and waits for a correct directive.

TFSP Displays

There are the five TFSP displays available for the OP=K option and output. One of these displays or the HELP display appears on the left screen of the K display. The output file gets a display only if the DISPLAY or HELP directive is issued from any option other than the OP=K option.

Display	Description
Family Level	This display appears initially for TFSP. It displays the family name, machine identification, global status, foreign status, current tape file management message buffer for the family if not in local file (LF) mode, and user names validated to access the tape catalog file using TFSP. See figures 3-2 and 3-3.
VSN Level	This display appears when a VSN directive is issued. It displays information about an unassigned VSN. The display is terminated by an ADD, REVISE, DROP, or GO directive. See figures 3-4 and 3-5.
User Level	This display appears when a USER directive is issued. It displays a short list of all tape file entries belonging to the user. If all files cannot be displayed at one time, a plus (+) character in column 1 of the input line will toggle the display to the next group of files. Symbolic access files are listed by file identifier and nonsymbolic access files are listed by first VSN and sequence number. The display is terminated by a user level DROP or GO directive. See figures 3-6 and 3-7.
File Level	This display appears when a FILE or FILEV directive is issued. It displays a full list of the tape file entry to be processed. It consists of three pages that can be toggled by a plus (+) character in column 1 of the input line. The display is terminated by an AMEND, REVISE, DROP, or GO directive. See figures 3-8, 3-9, 3-10, and 3-11.
Alternate User Level	This display appears when an AUSER directive is issued. It displays permission information for the user specified. The display is terminated by an ADMIT, DROP, or GO directive. See figures 3-12 and 3-13.

```
           *TFSP* - TAPE FILE SUPERVISOR.

    SEPARAT=,              SEPARATOR CHARACTER.  (0-1 CHARACTERS.)
    COLON  =              COLON CHARACTER.  (0-1 CHARACTERS.)
    READ   =              ALTERNATE INPUT FILE.

    FAMNAME=SKD           FAMILY NAME.  (1-7 CHARACTERS)
    LINKFAM=              LINKED CATALOG FAMILY.  (1-7 CHARACTERS)
    MID    =32            MACHINE ID.  (2 CHARACTERS)
    CATERR =CLEAR         ERROR STATUS.  (CLEAR, SET)
    FOREIGN=NO            FOREIGN STATUS.  (NO, YES)
    GLOBAL =NO            GLOBAL STATUS.  (NO, YES)


    CURRENT MESSAGE BUFFER -


    CATALOG SIZE = 00000079.   MT/NT SCRATCH COUNT = 00000070.
    CT SCRATCH COUNT = 00000007.  AT SCRATCH COUNT = 00000011.

    USER NAMES VALIDATED TO ACCESS
    TAPE CATALOG FILE VIA *TFSP* -

    TOSLJT   TMSUN1   TMSUN2


    FAMILIES PERMITTED TO ACCESS CATALOG

    SFT

    WAITING FOR INPUT.
```

Figure 3-2. Example of Family Level Left Screen K Display

```
            *TFSP* - FAMILY LEVEL *HELP* DISPLAY.


      HELP                 DISPLAY LEGAL DIRECTIVES.
      DISPLAY              TOGGLE OUT OF *HELP* DISPLAY.
      SEPARAT = CHAR       SET SEPARATOR CHARACTER.
                           DEFAULT IS COMMA.
      COLON   = CHAR       SET COLON CHARACTER.  DEFAULT IS NONE.
      READ    = FILENAM    READ DIRECTIVES OFF OF LOCAL FILE.
      REWIND  = FILENAM    REWIND LOCAL FILE.
      BRIEF/NOBRIEF        ENABLE/DISABLE INFORMATIVE OUTPUT.
      STOP                 TERMINATE TFSP.
      AUDITCH = CHARGNO    AUDIT BY CHARGE NUMBER.
      AUDITUN = USERNAM    AUDIT USER.  DEFAULT IS ALL USERS.
      AUDITVS = VSN        AUDIT VSN.  DEFAULT IS ALL VSNS.
      MREADCH = CHARGNO    MACHINE READABLE *AUDITCH*.
      MREADUN = USERNAM    MACHINE READABLE *AUDITUN*.
      MREADVS = VSN        MACHINE READABLE *AUDITVS*.
      SOURCCH = CHARGNO    SOURCE OF CHARGE NUMBER.
      SOURCUN = USERNAM    SOURCE OF USER.  DEFAULT IS ALL USERS.
      SOURCVS = VSN        SOURCE OF VSN.
      SOURCE               SOURCE OF ALL OF TAPE CATALOG FILE.
      RELEASE = VSN        RELEASE VSN AND ITS TAPE FILE.
      REMOVE  = VSN        REMOVE VSN FROM TAPE CATALOG FILE.
      PURGALL = USERNAM    RELEASE ALL TAPE FILES OF USER.
      PURGE   = VSN        PURGE TAPE FILES CONTAINING VSN.
      VALIDAT = USERNAM    VALIDATE USER TO USE *TFSP*.
      INVALID = USERNAM    INVALIDATE USER TO USE *TFSP*.
      ALTFAM  = FAMILY     ALLOW ALTERNATE FAMILY ACCESS.
      CALTFAM = FAMILY     DISALLOW ALTERNATE FAMILY ACCESS.
      ISV                  INITIALIZE SCRATCH VSN.
      VSN     = VSN        BEGIN VSN LEVEL DIRECTIVES.
      USER    = USERNAM    BEGIN USER LEVEL DIRECTIVES.
      DROP                 TERMINATE *TFSP*.
      GO                   MAKE UPDATES AND TERMINATE TFSP.
```

Figure 3-3. Example of Family Level Right Screen K Display

```
        *TFSP* - TAPE FILE SUPERVISOR.

SEPARAT=,                SEPARATOR CHARACTER.  (0-1 CHARACTERS.)
COLON  =                 COLON CHARACTER.  (0-1 CHARACTERS.)
READ   =                 ALTERNATE INPUT FILE.
VSN    = TODD01


        VSN CURRENTLY IS IN CATALOG.

VT     =MTNT             TAPE TYPE.   (MTNT, CT, OR AT)
PRN    =T00001           PHYSICAL VSN (PRN).   (1-6 CHARACTERS)
STATUS =AVAILABLE        STATUS.  (AVAILABLE, CLEANED, HOLD, ERROR)
SITE   =ON               SITE STATUS.  (ON, OFF)
OWNER  =CENTER           OWNERSHIP TYPE.  (CENTER, USER)
SYSTEM =NO               SYSTEM VSN FLAG. (NO, YES)
USAGE  =00               USAGE COUNTER.  (0-63)

WAITING FOR INPUT.


*INFORM*   VSN CURRENTLY IS IN CATALOG.
```

Figure 3-4. Example of VSN Level Left Screen K Display

```
        *TFSP*       VSN LEVEL "HELP" DISPLAY.

HELP                    DISPLAY LEGAL DIRECTIVES.
DISPLAY                 TOGGLE OUT OF "HELP" DISPLAY.
SEPARAT = CHAR          SET SEPARATOR CHARACTER.
                        DEFAULT IS COMMA.
COLON   = CHAR          SET COLON CHARACTER.  DEFAULT IS NONE.
READ    = FILENAM       READ DIRECTIVE OFF OF LOCAL FILE.
REWIND  = FILENAM       REWIND LOCAL FILE.
BRIEF/NOBRIEF           ENABLE/DISABLE INFORMATIVE OUTPUT.
STOP                    TERMINATE TFSP.
ADD                     PROCESS ADDING VSN TO CATALOG.
REVISE                  PROCESS REVISING VSN IN CATALOG.
DROP                    IGNORE ADD/REVISE OR VSN.
GO                      ADD OR REVISE VSN.
```

Figure 3-5. Example of VSN Level Right Screen K Display

```
              *TFSP* - TAPE FILE SUPERVISOR.

      SEPARAT=,              SEPARATOR CHARACTER (0-1 CHARACTERS).
      COLON =                COLON CHARACTER (0-1 CHARACTERS).
      READ  =                ALTERNATE INPUT FILE.
      USER  = TOSBAB


      TAPE FILES -

      BB0001/1              BB0002/1              BB0003/1
      BB0004/1              FILE1                 FILE2
      FILE3                 FILE4                 TEST
      MT1                   MT2
```

Figure 3-6. Example of User Level Left Screen K Display

```
          *TFSP*        USER LEVEL *HELP* DISPLAY.

      HELP                   DISPLAY LEGAL DIRECTIVES.
      DISPLAY                TOGGLE OUT OF *HELP* DISPLAY.
      SEPARAT = CHAR         SET SEPARATOR CHARACTER.
                             DEFAULT IS COMMA.
      COLON   = CHAR         SET COLON CHARACTER.  DEFAULT IS NONE.
      READ    = FILENAM      READ DIRECTIVES OFF OF LOCAL FILE.
      REWIND  = FILENAM      REWIND LOCAL FILE.
      BRIEF/NOBRIEF          ENABLE/DISABLE INFORMATIVE OUTPUT.
      STOP                   TERMINATE TFSP.
      AUDITCN = CHARGNO      AUDIT TAPE FILES WITH CHARGE NUMBER.
      AUDITFI = FILEID       AUDIT TAPE FILE.
      AUDITFV = VSN          AUDIT TAPE FILES WITH VSN.
      MREADCN = CHARGNO      MACHINE READABLE *AUDITCN*.
      MREADFI = FILEID       MACHINE READABLE *AUDITFI*.
      MREADFV = VSN          MACHINE READABLE *AUDITFV*.
      SOURCCN = CHARGNO      SOURCE OF TAPE FILES WITH CHARGE NUMBER.
      SOURCFI = FILEID       SOURCE OF TAPE FILE.
      SOURCFV = VSN          SOURCE OF TAPE FILES WITH VSN.
      RELEASF = FILEID       RELEASE BY TAPE FILE.
      RELEASV = VSN          RELEASE BY VSN.
      FILE    = FILEID       BEGIN FILE LEVEL DIRECTIVES.
      FILEV   = VSN/QN       BEGIN FILE LEVEL DIRECTIVES.
      DROP                   END USER LEVEL DIRECTIVES.
```

Figure 3-7. Example of User Level Right Screen K Display

```
+------------------------------------------------------------------+
|                     *TFSP* - TAPE FILE SUPERVISOR.               |
|                                                                  |
|       SEPARAT=,              SEPARATOR CHARACTER (0-1 CHARACTERS).|
|       COLON  =               COLON CHARACTER (0-1 CHARACTERS).    |
|       READ   =               ALTERNATE INPUT FILE.               |
|       USER   = TOSBAB                                            |
|       FVSN   = BB0005                                            |
|       QN     = 0001                                             |
|       FILE   = FILE1                        PAGE 1 OF 3          |
|                                                                  |
|                              FILE CURRENTLY IS RESERVED.         |
|                                                                  |
|       SV     =SET            SYMBOLIC ACCESS (NO, SET).          |
|       RECOVER=YES            RECOVERED STATUS (NO, YES).         |
|       CN     =EEEEEEE034     CHARGE NUMBER (0-10 CHARACTERS).    |
|       PN     =                              PROJECT NUMBER.     |
|                              (0-20 CHARACTERS.)                 |
|       CE     =CLEAR          ERROR FLAG (CLEAR, SET).           |
|       UC     =::::::::::     USER CONTROL WORD (0-10 CHARACTERS).|
|       TSITE  =ON             SITE STATUS (ON, OFF).             |
|       URDATE =               RELEASE DATE (YYMMDD)              |
|       TOWNER =CENTER         OWNERSHIP TYPE (CENTER, USER).     |
|       ASSIGNED VSNS -                                           |
|         BB0005                                                 |
+------------------------------------------------------------------+
```

Figure 3-8. Example of File Level Left Screen K Display (Screen 1 of 3)

```
*TFSP* - TAPE FILE SUPERVISOR.

SEPARAT=,            SEPARATOR CHARACTER (0-1 CHARACTERS).
COLON  =            COLON CHARACTER (0-1 CHARACTERS).
READ   =            ALTERNATE INPUT FILE.
USER   = TOSBAB
FVSN   = BB0005
QN     = 0001
FILE   = FILE1                          PAGE 2 OF 3


                    FILE CURRENTLY IS RESERVED.


FI     =FILE1                   LOGICAL FILE IDENTIFIER.
                    (1-17 CHARACTERS)
PW     =            PASSWORD, (0-7 CHARACTERS).
CT     =PRIVATE     ACCESS CATEGORY.
                    (PRIVAGE, SPRIV, PUBLIC)
M      =READ        ACCESS MODE (READ, WRITE, NULL).
AC     =NO          ALTERNATE CATLIST (NO, YES).
ACCOUNT=00000000    ACCESS COUNT (0-16777215).
CDATE  =840517      CREATION DATE (YYMMDD).
CTIME  =111409      CREATION TIME (HHMMSS).
ADATE  =840517      LAST ACCESS DATE (YYMMDD).
ATIME  =111409      LAST ACCESS TIME (HHMMSS).
MDATE  =840517      LAST MODIFICATION DATE (YYMMDD).
MTIME  =111409      LAST MODIFICATION TIME (HHMMSS).
```

Figure 3-9. Example of File Level Left Screen K Display (Screen 2 of 3)

```
                        *TFSP* - TAPE FILE SUPERVISOR.

     SEPARAT=,            SEPARATOR CHARACTER (0-1 CHARACTERS).
     COLON  =             COLON CHARACTER (0-1 CHARACTERS).
     READ   =             ALTERNATE INPUT FILE.
     USER   = TOSBAB
     FVSN   = BB0005
     QN     = 0001
     FILE   = FILE1                          PAGE 3 OF 3


                        FILE CURRENTLY IS RESERVED.

     PI     =FILE1                  PHYSICAL FILE IDENTIFIER.
                         (1-17 CHARACTERS)
     CR     =84138       CREATION DATE (YYMMDD).
     CV     =AS          CONVERSION MODE (AS, EB).
     D      =PE          DENSITY (PE, GE, HI, HY, HD, CE, AE).
     E      =00          GENERATION VERSION NUMBER (0-99).
     F      =T           FORMAT (I, S, L, SI, F, LI).
     FA     =            ACCESSIBILITY (0-1 CHARACTERS).
     FC     =5120        F-FORMAT MAX BLOCK SIZE (1-5120).
     G      =0001        GENERATION NUMBER (1-9999).
     LB     =KL          LABEL TYPE (KL, KU, NS).
     NS     =00          NOISE SIZE (0-31).
     RT     =84138       RETENTION DATE (YYDDD).
     SI     =::::::      SET IDENTIFIER (0-6 CHARACTERS).
     SN     =0001        SECTION NUMBER (1-9999).
```

Figure 3-10. Example of File Level Left Screen K Display (Screen 3 of 3)

```
        *TFSP*   FILE LEVEL *HELP* DISPLAY.

     HELP                            DISPLAY LEGAL DIRECTIVES.
     DISPLAY              TOGGLE OUT OF *HELP* DISPLAY.
     SEPARAT = CHAR       SET SEPARATOR CHARACTER.
                          DEFAULT IS COMMA.
     COLON   = CHAR       SET COLON CHARACTER.  DEFAULT IS NONE.
     READ    = FILENAM    READ DIRECTIVES OFF OF LOCAL FILE.
     REWIND  = FILENAM    REWIND LOCAL FILE.
     BRIEF/NOBRIEF        ENABLE/DISABLE INFORMATIVE OUTPUT.
     STOP                 TERMINATE TFSP.
     AUDITAU = USERNAM    AUDIT ALTERNATE USER.
     AVSN    = VSN        ASSIGN VSN TO TAPE FILE.
     AUSER   = USERNAM    BEGIN ALTERNATE USER LEVEL DIRECTIVES.
     RESERVE              PROCESS RESERVE OF TAPE FILE.
     AMEND                PROCESS AMEND OF TAPE FILE.
     DROP                 IGNORE RESERVE/AMEND OF TAPE FILE.
     GO                   RESERVE OR AMEND TAPE FILE.
```

Figure 3-11. Example of File Level Right Screen K Display

```
┌─────────────────────────────────────────────────────────────────────┐
│                         *TFSP* - TAPE FILE SUPERVISOR.                │
│                                                                       │
│        SEPARAT=,              SEPARATOR CHARACTER (0-1 CHARACTERS).    │
│        COLON  =               COLON CHARACTER (0-1 CHARACTERS).        │
│        READ   =               ALTERNATE INPUT FILE.                   │
│        USER   = TOSBAB                                                 │
│        FILE   = FILE1                                                  │
│        AUSER  = TOSJDH                                                 │
│                                                                       │
│                                                                       │
│                               USER CURRENTLY IS ADMITTED.             │
│                                                                       │
│                                                                       │
│        AMODE  = IMPLICIT      PERMISSION MODE.                        │
│                               (IMPLICIT, WRITE, READ, NULL, SPECIAL)  │
│        AACOUNT=000000         ACCESS COUNT.  (0-262143)              │
│        AADATE =840723         LAST ACCESS DATE.  (YYMMDD)             │
│        AATIME =172617         LAST ACCESS TIME.  (HHMMSS)             │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 3-12. Example of Alternate User Level Left Screen K Display

```
┌─────────────────────────────────────────────────────────────────────┐
│              *TFSP* ALT USER LEVEL *HELP* DISPLAY.                    │
│                                                                       │
│        HELP                   DISPLAY LEGAL DIRECTIVES.               │
│        DISPLAY                TOGGLE OUT OF *HELP* DISPLAY.           │
│        SEPARAT = CHAR         SET SEPARATOR CHARACTER.               │
│                               DEFAULT IS COMMA.                       │
│        COLON   = CHAR         SET COLON CHARACTER.  DEFAULT IS NONE.  │
│        READ    = FILENAM      READ DIRECTIVES OFF OF LOCAL FILE.      │
│        REWIND  = FILENAM      REWIND LOCAL FILE.                      │
│        BRIEF/NOBRIEF          ENABLE/DISABLE INFORMATIVE OUTPUT.      │
│        STOP                   TERMINATE TFSP.                         │
│        ADMIT                  PROCESS ALTERNATE USER ADMIT.           │
│        DROP                   IGNORE ALTERNATE USER ADMIT.            │
│        GO                     PROCESS ALTERNATE USER ADMIT.           │
└─────────────────────────────────────────────────────────────────────┘
```

Figure 3-13. Example of Alternate User Level Right Screen K Display

Common Keyword Value Descriptions

The following keyword values apply to the various levels of TFSP directives.

Value	Description
chargno	1 to 10 characters. Alphanumeric characters or an asterisk may be used.
family	1 to 7 alphanumeric characters.
fileident	1 to 17 alphanumeric characters.
hhmmss	Hour, minutes, and seconds. For example: 133024 is 30 minutes 24 seconds past 1 p.m.
passwor	0 to 7 alphanumeric characters.
projectno	1 to 20 characters. Alphanumeric characters or an asterisk may be used.
pvsn	1 to 6 characters. Blanks are significant.
setid	0 to 6 characters. Blanks are significant.
usernam	1 to 7 alphanumeric characters.
vsn	The VSN may be 1 to 6 characters on input. However, TFSP pads the vsn to six characters by inserting zeros before the first numeric character. Blanks are ignored. For example: T1 becomes T00001 T1A becomes T0001A TA becomes TA0000
vsn/seqno	The vsn is specified as above. Valid values for seqno are 1 through 9999. A slant (/) separates the vsn and the seqno. If vsn is specified alone, seqno defaults to 1.
yyddd	Year and day (Julian format). For example: 85105 is April 15, 1985.
yymmdd	Year, month, and day. For example: 850415 is April 15, 1985.

Family Level Directives

Family level directives reference all tape file entries and VSNs in the tape catalog file.

Directive	Description
AUDITCH=chargno	Copies information about file entries belonging to the specified charge number to the output file. A null chargno is invalid.
AUDITUN=usernam	Copies information about the tape file entries for user name usernam to the output file. If usernam is null, all tape file entries in the tape catalog file are processed.
AUDITVS=vsn	Copies information about VSN vsn to the output file. The information includes whether the VSN is included in the tape catalog file and its position in a multivolume tape file. If vsn is null, every VSN in the tape catalog file is processed.
BRIEF	Disables the printing of informative messages on the output file. Information messages affected include messages prefixed by the flag INFORM, images of valid input directives, and the first eight lines issued as a result of a DISPLAY directive.
CATERR=status	Sets the error status of the tape catalog file. Valid entries for status are: CLEAR Clears error status and message buffer. SET Sets error status and sets TFSP error message in message buffer. Default is CLEAR.
COLON=char	A nonblank, nonalphanumeric character that is interpreted as a colon in the directive stream. Default is no character.
DISPLAY	Toggles from the HELP display to the normal left screen display for the OP=K option. The display is copied to the output file if the OP=K option has not been specified.
DROP	Terminates TFSP. Changes specified by the family level directives are ignored.
FAMNAME=family	Sets the family name of the tape catalog file. If family is null, the family name of the job is used.

Directive	Description
FOREIGN=status	Specifies if the scratch tapes of this family are foreign to the running system. Valid entries for status are: NO Family is not foreign to system. YES Family is foreign to system. Default is NO.
GLOBAL=status	Specifies if the scratch tapes of this family are available to other families. Valid entries for status are: NO Scratch tapes are unavailable to other families. YES Scratch tapes are available to other families. Default is NO.
GO	Makes updates entered by family level directives, then terminates TFSP.
HELP	Displays a list of valid directives. HELP is also available on the right screen of the K-display for the OP=K option. The display is copied to the output file if the OP=K option has not been specified.
INVALID=usernam	Removes usernam as a user validated by the VALIDAT directive. A null usernam is invalid.
ISV	Initializes scratch VSNs. Entering this directive ensures that all VSNs that are not assigned to tape files are available as scratch VSNs. This directive should be issued to add VSNs to the scratch VSN list after they have been added to the tape catalog file with the VSN directive.
MID=id	Sets the machine identifier of the tape catalog file. If id is null, the machine identifier of the running system is used.
MREADCH=chargno	Copies information about tape file entries belonging to the specified charge number to a machine-readable file. A null chargno is invalid.
MREADUN=usernam	Copies information about tape file entries for user name usernam to a machine-readable file. If usernam is null, all tape file entries in the tape catalog file are processed.

Directive	Description
MREADVS=vsn	Copies information about VSN vsn to a machine-readable file. The information includes whether the VSN is included in the tape catalog file and its position in a multivolume tape file. If vsn is null, every VSN in the tape catalog file is processed.
NOBRIEF	Enables the printing of informative messages disabled by BRIEF. TFSP is initially in NOBRIEF mode.
PURGALL=usernam	Purges all tape file entries that belong to usernam from the tape catalog file. Releases all VSNs that were assigned to the tape file entries of usernam. The released VSNs are removed from the tape catalog file. A null usernam is invalid.
PURGE=vsn	Releases and removes the specified tape file from the tape file catalog. Every VSN associated with that tape file is purged. If the VSN is not assigned, it is removed from the tape catalog file. A null vsn is invalid.
READ=filenam	Reads TFSP directives from local file filenam until an end-of-record, end-of-file, or end-of-information is reached. TFSP processes the directives until an error is encountered or the end of the directives is reached. The READ directive cannot be included in the file that is read. The file is not rewound before or after it is read. A null filenam is invalid.
RELEASE=vsn	Purges the tape file entries that have an assigned VSN of vsn from the tape catalog file. Every VSN associated with that tape file is released. A null vsn is invalid.
REMOVE=vsn	Removes VSN vsn from the tape catalog file. Once removed, vsn cannot be assigned to a tape file entry until a VSN directive has been issued. The vsn specified by the REMOVE directive cannot be assigned to a tape file entry. An assigned VSN would have to be released from its tape file entry first by the RELEASE, RELEASF, or RELEASV directive. A null vsn is invalid.
REWIND=filenam	Rewinds the local filenam. This directive is usually used with the SOURCE, AUDIT, and READ directives. A null filenam is invalid.
SEPARAT=char	A nonblank, nonalphanumeric character that is interpreted as a separator, even by the PRN, FI, PI, UC, and SI directives. Default is a comma.

Directive	Description
SOURCCH=chargno	Copies the directives required to create the tape file entries belonging to the specified charge number to the source file. A null chargno is invalid.
SOURCE	Copies the directives required to recreate the tape catalog file to the source file.
SOURCUN=usernam	Copies the directives required to create the tape file entries for user name usernam to the source file. If usernam is null, all tape file entries in the tape catalog file are processed.
SOURCVS=vsn	Copies the directives required to add VSN vsn as a scratch tape to the source file. If vsn is null, every VSN in the tape catalog file is processed.
STOP	Terminate TFSP. Changes specified by the family level directive are ignored.
USER=usernam	Begins user level directives. All directives following the USER directive and before the next user level DROP or END directive are associated with tape file entries belonging to user name usernam. A null usernam is invalid.
VALIDAT=usernam	Adds usernam as a user that is validated to use TFSP to access and update the family tape catalog file from a nonsystem origin job. Up to eight user names can be added. A null usernam is invalid.
VSN=vsn	Begins VSN level directives and implicitly selects a tape device of MT (7-track) or NT (9-track). All directives following the VSN directive and before the next ADD, REVISE, END, or DROP directive are associated with VSN vsn. The VSN is added to the tape catalog file if it is not already there. A null vsn is invalid.

VSN Level Directives

VSN level directives reference one VSN. VSN level directives may occur anywhere after a VSN directive and before an ADD, REVISE, GO, or DROP directive.

Directive	Description
ADD	End processing of VSN level directives. The specified VSN is added to the tape catalog. Invalid if the VSN is already in the tape catalog.
DROP	End processing of VSN level directives. Changes specified by the VSN level directives are ignored.
ERRFLAG=flag	Sets or clears the read/write error flag for the VSN. Valid entries for flag are:
	SET
	Set error flag.
	CLEAR
	Clear error flag.
	Default is CLEAR.
GO	Same as ADD for a new VSN. Same as REVISE for an existing VSN.
MAINT=main	Sets the maintenance status for the VSN. A VSN held for maintenance cannot be assigned to a tape file entry. Valid entries for main are:
	HOLD
	Hold for maintenance.
	AVAILABLE
	Available for assignment.
	Default is AVAILABLE.

Directive	Description
OWNER=type	Sets the ownership status of the VSN. OWNER=USER may not be specified for a VSN with the system VSN flag set. Valid entries for type are: CENTER Center-owned. USER User-owned. Default is CENTER.
PRN=pvsn	Sets the physical (internal) VSN. Default is the logical (external) VSN.
REVISE	End processing of VSN level directives. The changes specified by the VSN level directives are made to the specified VSN. Invalid if the VSN is not in the tape catalog.
SITE=site	Sets the off-site/on-site status of the VSN. Users cannot access an off-site VSN. Valid entries for site are: ON On-site. OFF Off-site. Default is ON.
SYSTEM=sys	Sets the system VSN flag status of the VSN. A VSN with the system VSN flag set cannot be used as a scratch VSN but can be assigned to a tape file by TFSP. This directive is valid only when a VSN is first created; it cannot be specified for a user-owned VSN. Valid entries for sys are: YES The VSN is a system VSN. NO The VSN is not a system VSN. Default is NO.

VT=type   Sets the tape type of the VSN. This directive is valid only when a VSN is first created. Valid entries for type are:

MTNT

VSN can be used as either a 7-track (MT) or a 9-track (NT) tape.

CT

VSN can be used only as a cartridge (CT) tape.

AT

VSN can be used only as a cartridge (AT) tape.

Default is MTNT.

User Level Directives

User level directives reference the tape file entries belonging to one user on the tape catalog file. User level directives may occur anywhere after a USER directive.

Directive	Description
AUDITCN=chargno	Copies information about the tape file entries belonging to the user with a charge number of chargno to the output file. A null chargno is invalid.
AUDITFI=fileident	Copies information about the tape file entry fileident to the output file. A null fileident is invalid.
AUDITFV=vsn	Copies information about the tape file entries belonging to the user with an assigned VSN of vsn to the output file. A null vsn is invalid.
DROP	Ends processing of user level directives. Changes specified by the user level directives are ignored.
FILE=fileident	Begins file level directives. All directives following the FILE directive and before the next AMEND, RESERVE, or file level DROP or END directive are associated with the tape file entry fileident belonging to the user. FILE can be used to create a new or update an existing symbolic access tape file entry. Nonsymbolic access tape files must be referenced by the FILEV directive. A null fileident is invalid.
FILEV=vsn/seqno	Begins file level directives. All directives following the FILEV directive and before the next AMEND, RESERVE, or file level END or DROP directive are associated with the tape file entry belonging to the user with an assigned VSN of vsn and sequence number seqno. The file position in a multifile set is specified by seqno. FILEV can be used to create a new or update an existing tape file entry. A null vsn is invalid. If seqno is omitted, a value of 1 is assumed.
GO	Same as DROP.
MREADCN=chargno	Copies information about the tape file entries belonging to the user with a charge number of chargno to the machine-readable file. A null chargno is invalid.

Directive	Description
MREADFI = fileident	Copies information about the tape file entry fileident to the machine-readable file. A null fileident is invalid.
MREADFV = vsn	Copies information about the tape file entries belonging to the user with an assigned VSN of vsn to the machine-readable file. A null vsn is invalid.
RELEASF = fileident	Purges the tape file entry fileident belonging to the user from the tape catalog file. Every VSN associated with that tape file entry is released. A null fileident is invalid.
RELEASV = vsn	Purges the tape file entries belonging to the user with an assigned VSN of vsn from the tape catalog file. Every VSN associated with that tape file is released. A null vsn is invalid.
SOURCCN = chargno	Copies the directives required to create the tape file entries belonging to the user with a charge number of chargno to the source file. A null chargno is invalid.
SOURCFI = fileident	Copies the directives required to create the tape file entry fileident belonging to the user to the source file. A null fileident is invalid.
SOURCFV = vsn	Copies the directive required to create the tape file entries belonging to the user with an assigned VSN of vsn to the source file. A null vsn is invaid.
+	When a plus character is in column 1 of the input line, the list of tape file entries displayed on the left-screen K display is toggled. Except for the OP = K option, the DISPLAY directive must be issued to copy the display to the output file.

File Level Directives

File level directives reference one tape file entry belonging to the user. File level directives may occur anywhere after a FILE or FILEV directive. Whenever a file level directive is assigned a null value, TFSP sets the default value unless stated otherwise in the directive description. Site personnel will probably find that they only have to enter a few of the file level directives (such as CN and AVSN) when creating new tape file entries. Most of the file level directives exist for the dumping and loading of tape file entries using the source file.

Directive	Description
AC=op	Sets the CATLIST permission for alternate users of the tape file. Valid entries for op are: YES Alternate users can AUDIT the public or semiprivate tape file. NO Alternate users cannot AUDIT the tape file. Default is NO. Alternate users cannot AUDIT private tape files even if AC=YES.
ACOUNT=count	Sets the number of accesses of the tape file entry. Default is zero.
ADATE=yymmdd	Sets the date of last access of the tape file entry. Default is the current date.
AMEND	Ends processing of file level directives. The changes specified by the file level directives are made to the tape file. Invalid if the tape file is not reserved.
ATIME=hhmmss	Sets the time of last access of the tape file entry. Default is the current time.
AUDITAU=usernam	Copies the ADMIT information granted to user name usernam for the tape file entry to the output file. If usernam is null, all user names admitted to the tape file entry are processed.
AUSER=usernam	Begins alternate user level directives. All directives following the AUSER directive and before the next ADMIT, DROP, or END directive are associated with the permission granted to user name usernam for the tape file entry. Invalid entry if the tape file has not yet been reserved. A null usernam is invalid.

Directive	Description
AVSN=vsn	Adds vsn as the last VSN assigned to the tape file entry. This directive is invalid if the tape file entry already has 60 assigned VSNs or if the tape file entry is not the last file in a multifile set. The VSN can be assigned if one of these conditions is met: 1. The VSN is not assigned to another tape file, and its status and tape type matches the status and tape type of the first assigned VSN of the tape file. (See the ERRFLAG, MAINT, SITE, OWNER, TSITE, TOWNER, and VT directives for descriptions of the statuses and tape types.) 2. The tape file entry has no assigned VSNs; the vsn is the last VSN of another tape file belonging to the user, and the tape type of the vsn is consistent with the density of the tape file entry. A null vsn is invalid.
CDATE=yymmdd	Sets the date of creation of the tape file entry. Default is the current date.
CE=flag	Sets or clears the read/write error flag for the tape file entry. Valid entries for flag are: SET Set error flag. CLEAR Clear error flag. Default is CLEAR.
CN=chargno	Sets the charge number assigned to the tape file entry. Default is no charge number.
CR=yyddd	Sets the creation date (Julian format) of an ANSI-labeled tape. This value is usually equivalent to the date specified by the CDATE directive; however, it can be different. Default is the current date.
CT=cat	Sets the permit category for alternate users of the tape file. Valid entries for cat are: PRIVATE Private. Alternate user access restricted. SPRIV Semiprivate. Alternate user access allowed and recorded. PUBLIC Public. Alternate user access allowed but not recorded. Default is PRIVATE.

Directive	Description
CTIME=hhmmss	Sets the time of creation of the tape file entry. Default is the current time.
CV=mode	Sets the conversion mode for the 9-track tape file entry. Valid entries for mode are:

        AS

        ASCII-display code conversion.

        EB

        EBCDIC-display code conversion.

        Default is AS.

Directive	Description
D=density	Sets the tape density. Also sets the tape type. A change in density may not be made if it implies a change in tape type and the file already has assigned VSNs. Valid entries for density are:

        AE

        Cartridge tape for ACS (AT), 38000 cpi.

        CE

        Cartridge tape for CTS (CT), 38000 cpi.

        HI

        7-track (MT), 556 cpi.

        HY

        7-track (MT), 800 cpi.

        HD

        9-track (NT), 800 cpi.

        PE

        9-track (NT), 1600 cpi.

        GE

        9-track (NT), 6250 cpi.

        Default is PE.

Directive	Description
DROP	Ends processing of file level directives. Changes specified by the file level directives are ignored.
E=number	Sets the 1- or 2-digit generation version number for an ANSI-labeled tape. Default is 00.

Directive	Description
F=format	Sets the data format of the tape file entry. Valid entries for format are:
	I Internal.
	S Stranger.
	L Long block stranger.
	LI Long block internal.
	SI SCOPE internal.
	F Foreign.
	Default is I.
FA=char	Sets the accessibility restriction for an ANSI-labeled tape. Valid entries for char are:
	null No accessibility restrictions for alternate users.
	A No accessibility allowed for alternate users.
	other (any alphanumeric character) Alternate users must specify char to access tape file entry.
	Default is null.
FC=frames	Sets the maximum sized block that can be read from or written to an F format tape. The value must be greater than that specified by the NS directive. Default is unlimited.
FI=fileident	Changes the logical file identifier of the tape file entry to fileident. This is the name specified by user commands and the FILE directive when accessing this tape file entry. The fileident must not be the name of any other tape file entry belonging to the user if symbolic access is set. Default is the same name as specified in the previous FILE directive.
G=number	Sets the 1- to 4-digit generation number for an ANSI-labeled tape. Default is 0001.
GO	Same as RESERVE for a new tape file entry. Same as AMEND for an existing tape file entry.

Directive	Description
LB=label	Sets the label status of the tape file entry. Valid entries for label are:

KU
Unlabeled.

KL
ANSI-labeled.

NS
Nonstandard labeled.

Default is KL.

M=mode	Sets the access mode for alternate users. Valid entries for mode are:

READ
Alternate users may only read the tape file.

WRITE
Alternate users may read or write the tape file.

NULL
Alternate users may not access the tape file.

Default is READ.

MDATE=yymmdd	Sets the date of the last modification of the tape file entry. Default is the current date.
MTIME=hhmmss	Sets the time of last modification of the tape file entry. Default is the current time.
NS=frames	Sets the minimum size of a valid block. Any smaller block is considered noise. Valid entries for frames are 0 through 31, and must be less than frames specified by the FC directive. Default is 0.
PI=fileident	Sets the physical file identifier of the tape file entry. Generally, fileident is the same as the logical file identifier when the tape file entry is created. Default is the same name as specified in the FILE directive when the tape file entry is first created. If LB=KU when the tape file is reserved or amended, the physical file identifier is cleared.
PN=projectno	Sets the project number assigned to the tape file entry. Default is no project number.
PW=passwor	Sets the password that alternate users must specify to access the tape file. Default is no password.

Directive	Description
RDATE=yymmdd	Sets the user release date of the tape file entry. If the directive is specified with no date (RDATE=), the user release date is cleared. A user cannot access a tape file that has a user release date. Symbolic access should be cleared (SV=NO) whenever the release date is set to prevent file name conflicts for the user. (For multifile tape sets, symbolic access should be cleared for each tape file in the set if the release date is set.)

This directive sets the same field as the URDATE directive. The URDATE directive sets the unconditional release date. The unconditional release date is the user release date plus the conditional release delay period. See the description of the conditional release delay period in section 5. |
| RECOVER=status | Sets the recovery status of the tape file. Valid entries for status are:

NO

Tape file has not been recovered.

YES

Tape file has been recovered. The user may have to amend the tape file entry to return it to its original state.

Default is NO. |
RESERVE	Ends processing of file level directives. The tape file is reserved. Invalid if the tape file already is reserved.
RT=yyddd	Sets the retention date (Julian format) for an ANSI-labeled tape. No one (including the tape owner) can write over the tape before this date. Default is the current date.
SI=setid	Sets the set identifier of an ANSI-labeled tape. Default is no set identifier.
SN=secno	Sets the 1- to 4-digit file section number for an ANSI-labeled tape. Default is 0001.
SV=access	Sets the symbolic access status of the tape file. Valid entries for access are:

NO

No symbolic access. Tape file entry cannot be accessed by the file identifier.

SET

Symbolic access. Tape file entry can be accessed by the file identifier.

Default is NO. |

Directive	Description
TOWNER=type	Sets the ownership status of all the VSNs assigned to the tape file entry. Valid entries for type are: CENTER Center-owned. USER User-owned. Default is CENTER.
TSITE=site	Sets the off-site/on-site status of all the VSNs assigned to the tape file entry. Users cannot access off-site tape files. Valid entries for site are: ON On-site. OFF Off-site. Default is ON.
UC=word	Sets the 10-character user control word for the tape file entry. Blanks are significant. TFSP will left justify and blank fill if word is less than 10 characters. Default is 10 colons.
URDATE = yymmdd	Sets the unconditional release date of the tape file entry. If the directive is specified with no date (URDATE=), the unconditional release date is cleared. A user cannot access a tape file that has an unconditional release date. Symbolic access should be cleared (SV=NO) whenever the release date is set to prevent file name conflicts for the user. (For multifile tape sets, symbolic access should be cleared for each tape file in the set if the release date is set.) This directive sets the same field as the RDATE directive. The RDATE directive sets the user release date. The user release date is the unconditional release date minus the conditional release delay period. See the description of the conditional release delay period in section 5.
+	When a plus character is in column 1 of the input line, the page displayed at the left-screen K display is toggled. Except for the OP=K option, the DISPLAY directive must be issued to copy the display to the output file.

Alternate User Level Directives

Alternate user level directives reference an alternate user granted explicit permission to access the tape file. Alternate user level directives may occur anywhere after an AUSER directive and before an ADMIT, DROP, or GO directive. Whenever an alternate user level directive is assigned a null value, TFSP sets the default value.

Directive	Description
AACOUNT=count	Sets the number of accesses by the user. Default is zero.
AADATE=yymmdd	Sets the date of last access by the user. Default is the current date.
AATIME=hhmmss	Sets the time of last access by the user. Default is the current time.
ADMIT	End processing of alternate user level directives. The changes specified by the alternate user level directives are made to the alternate user.
AMODE=mode	Sets the access mode granted to the user. Valid entries for mode are:

        NULL

        No access allowed to the user.

        READ

        User allowed to read but not write the tape file.

        WRITE

        User allowed to read and write the tape file.

        IMPLICIT

        Semiprivate access. The mode specified by the file level directive (M=mode) takes precedence.

        SPECIAL

        TMS conversion mode.

    Default is IMPLICIT.

DROP	End processing of alternate user level directives. Changes specified by the alternate user level directives are ignored.
GO	Same as ADMIT.

TFSP Audit Directive Output Formats

The TFSP audit directives have six output formats. Figures 3-14, 3-15, and 3-16 illustrate these directives.

Directive	Description of Output
AUDITAU	Figure 3-14 is an example of the AUDITAU directive output format.
AUDITCN	Similar to the output format for the AUDITUN directive.
AUDITFI	Same as AUDITUN. Only one tape file entry is processed.
AUDITFV	Similar to the output format for the AUDITFI directive.
AUDITUN	Figure 3-15 is an example of the AUDITUN directive output format. User names are processed alphabetically.
AUDITVS	TFSP lists whether the VSN specified is in the tape catalog file or is assigned to a tape file entry. If it is assigned, TFSP will list the user name and file name of the tape file entry, the next VSN, and the first VSN of the entry. VSNs are sorted alphabetically. Figure 3-16 is an example of the AUDITVS directive output format.

```
AUOIT LISTING.
USER = USER3        FILE = TAPEFILEID10
FVSN = V00002       QN = 0001

USER NAME    MOOE            ACCESSES     OATE        TIME

HTH345       IMPLI           000002       830216      071632
USER002      IMPLI           000001       830130      225411
USR0001      REAO            000000       830216      155045
USR0002      NULL            000000       830216      155045
```

Figure 3-14. Example of AUDITAU= Directive Output

```
   AUDIT LISTING.

USER        FILE-IDENTIFIER    SV FVSN    QN     CE CHARGE    PROJECT-NUMBER
PASSWORD PHYSICAL-FILE-ID    MD CT  AC UCW
CR       CV  O     E    F   FA FC     G     LB NS    RT      SN     SI
ACCESSES COATE  CTIME  ADATE  ATIME  MDATE  MTIME


USER002                       N  S00001  0001  S  CHARGNO
                              R  PR  N
83047    AS  PE   00    I       5120   0001  KL  00    83047    0001
00000000 830216 155045 830216 155045 830216 155045


   S00001     S00002


USER3    TAPEFILEIO10        S  V00002  0001  C  XXXXXXX
PASSWOR  TAPEFILEID10        R  SP  N
83047    AS  PE   00    I       5120   0001  KL  00    83047    0001


   V00002     V00003


USER3    TAPEFILEID11        S  V00002  0002  C  XXXXXXX
         TAPEFILEID11        R  PU  Y
83047    AS  PE   00    I       5120   0001  KL  18    83D47    0001
00000000 830216 155045 830216 155045 830216 155045


   V00003


USER3                         N  USER3T  0001  C  9999999
         XXXXXBBBBB           R  PR  N
83047    AS  PE   00    I       5120   0001  KL  00    83047    0001
00000000 830216 155045 830216 155045 830216 155045


   USER3T


TAPEUSE                       N  B00001  0001  C  TAPECHG  TAPEPROJECT
                              R  PR  N  ::::::::::
84075    AS  PE   00    I       5120   0001  KL  00    84075    0001     ::::::
00000000 840315 085305 840315 085305 840315 085305
 ** TO BE RELEASED 840323 **


   B00001     B00002


TAPEUSE                       N  B00001  0002  C  TAPECHG  TAPEPROJECT
                              R  PR  N  ::::::::::
84075    AS  PE   00    I       5120   0001  KL  00    84075    0002     ::::::
00000000 840315 085305 840315 085305 840315 085305
 ** TO BE RELEASED 850323 **


   B00002
```

Figure 3-15. Example of AUDITUN= Directive Output

```
  AUDIT LISTING.

  VSN     PRN     VT   STATUS UC OWNER  SITE SYSTEM CHARGE          URDATE FVSN   NVSN

  A00001 A00001 MTNT AVAIL 00 CENTER ON   NO    *NOT ASSIGNED*
  A00002 A00002 MTNT AVAIL 05 CENTER ON   NO    USER001 CHRG001 840315 A00002 A00003
  A00003 A00003 CT   AVAIL 03 CENTER ON   YES   USER001 CHRG001 840315 A00002
  U00007 MYTAPE AT   AVAIL 15 USER   ON   NO    USER005 MYCHRGE        U00007
```

Figure 3-16. Example of AUDITVS= Directive Output

TFSP Machine-Readable File Format

The format of a machine-readable file generated by TFSP is similar in most fields to that generated by the AUDIT command. For the MREADVS directive, VSNs that are not assigned to a tape file can also be listed. In this case, characters 9 to 155 and 197 to 215 of the machine-readable record are set to blanks. The format of the machine-readable record is as follows:

Table 3-1. TFSP Logical Record Format (Machine-Readable File)

Column	Description
01	Version; numeric
02 - 08	Family name; alphanumeric
09 - 15	User name;[1] alphanumeric
16 - 22	Charge number;[1] alphanumeric
23 - 42	Project number;[1] alphanumeric
43 - 59	Tape logical file name or VSN if nonsymbolic[1]; alphanumeric
60 - 66	File category;[1] alphabetic (P, PR, PU, SP)
67 - 72	Creation date (yymmdd);[1] numeric
73 - 78	Creation time (hhmmss);[1] numeric
79 - 84	Last access date (yymmdd);[1] numeric
85 - 90	Last access time (hhmmss);[1] numeric
91 - 96	Last modification date (yymmdd);[1] numeric
97 - 102	Last modification time (hhmmss);[1] numeric
103 - 108	File permission mode;[1] alphabetic (R, W, N)

1. This field is filled with blanks for a VSN that is not assigned to a tape file.

(Continued)

Table 3-1. TFSP Logical Record Format (Machine-Readable File) *(Continued)*

Column	Description
109 - 118	Access count;[1] numeric
119 - 120	File format;[1] alphabetic (I, SI, F, S, SL, LI)
121 - 122	Conversion mode;[1] alphabetic (AS, EB)
123 - 124	Physical tape type;[1] alphabetic (NT, MT, CT, AT)
125 - 126	Tape density;[1] alphabetic (HI, LO, HY, HD, PE, GE, CE, AE)
127 - 129	Not used (blanks)
130 - 139	User control word (UW)[1]
140 - 143	Not used (blanks)
144	Error indicator that specifies whether or not NOS detected an error in this file; alphabetic (S, C)
145	Not used (blank)
146 - 152	File password (blanks for alternate users);[1] alphanumeric
153 - 155	Not used (blanks)
156 - 161	VSN (external); alphanumeric
162 - 167	PRN (internal); alphanumeric
168 - 173	First VSN; alphanumeric
174 - 179	Next VSN (blank if no next volume); alphanumeric
180 - 184	Maintenance flag; alphabetic HOLD if hold for maintenance AVAIL if available
185 - 187	Site status; alphabetic ON if on-site OFF if off-site
188 - 193	Ownership type; alphabetic CENTER if center-owned USER if user-owned
194	Error indicator that specifies whether NOS detected an error on this VSN; alphabetic

1. This field is filled with blanks for a VSN that is not assigned to a tape file.

(Continued)

Table 3-1. TFSP Logical Record Format (Machine-Readable File) *(Continued)*

Column	Description
195 - 196	Volume number; numeric
197 - 198	Label status;[1] alphabetic (KL, KU, NS)
199 - 215	Physical file name;[1] alphanumeric
216 - 217	Tape usage count; numeric
218 - 223	Release dates (yymmdd); numeric
224	Reserved flag; alphabetic R if reserved tape file N if tape file is not reserved
225	Recovery flag; alphabetic S if recovered tape file N if not recovered tape file
226	New release date format flag; alphabetic * if new format Blank if old format
227 - 229	System VSN flag; alphabetic YES if system VSN NO if not system VSN
230 - 233	VSN tape type; alphabetic MTNT if either MT or NT tape CT if cartridge tape for CTS AT if cartridge tape for ACS

1. This field is filled with blanks for a VSN that is not assigned to a tape file.

TFSP Aborts and Recovery

TFSP aborts whenever one of the following conditions is present:

- Command parameter error.

- File name conflict.

- Error in the tape catalog file.

- User issuing the command is not validated.

- Fast-attached file ZZZZZFC cannot be found.

In abort mode, TFSP aborts on directive errors. When TFSP aborts, it issues the ABORT macro so the system can initiate EXIT processing.

When TFSP is aborted externally (such as an operator DROP or KILL), TFSP clears its interlock on the fast-attached tape catalog file. However, it is possible that busy interlocks on VSNs could be set, leaving the VSNs inaccessible. In this case, it may become necessary to reinitialize the tape catalog file using the ISV directive.

If TFSP happens to be executing when the system or IAF crashes, the tape catalog file or some VSNs could remain interlocked and therefore inaccessible. If the IAF job can be recovered, TFSP should be able to continue from the point of the abort. If the fast-attached tape catalog file is interlocked, it may be necessary to use the TFSPE command to clear the interlock. If VSNs are interlocked, it may be necessary to reinitialize the tape catalog file using the ISV directive.

TFSPE Command

Site personnel can use the TFSPE command to clear interlocks in the tape catalog file that prevent normal TFSP jobs from accessing the tape catalog file. When TFSPE is executed, any other TFSP job that is accessing the tape catalog file of the same family is aborted. TFSPE can be used only from a system origin job.

Format:

```
TFSPE(FM=family,L=filenam,S=filenam,SS=filenam,CF=filenam,CLEAR)
```

The default for the FM parameter is the default family. The default for the L parameter is OUTPUT. The default for the S parameter is SOURCE. The default for the SS parameter is no file.

TFSPE is equivalent to the TFSP(OP=K) command with the following three exceptions:

1. The initial left screen K display includes the following information:

   ```
   TAPE CATALOG ERROR DISCOVERED AT - yy/mm/dd, hh.mm.ss.
   ```

   The error is explained in the message buffer.

2. The interlock that prevents multiple TFSP jobs from accessing a tape catalog file is cleared and reset so that only the TFSPE job can access the file. Any other TFSP job attempting to access the tape catalog file is aborted.

3. The following parameters are also available on the TFSPE command:

Parameter	Description
CF=filename	Copy file for TFSPE. If this parameter is specified on the TFSPE command, TFSPE attempts to define a direct access file on user name SYSTEMX with the permanent file name filenam. TFSPE then copies the current tape catalog file to filenam. If this parameter is not specified, TFSPE does not copy the current tape catalog file. If CF is specified without a file name, ZFCCOPY is assumed.
CLEAR	Clear information from tape catalog file for TFSPE. If this parameter is specified on the TFSPE command, TFSPE overwrites the tape catalog file as an empty tape catalog file. The foreign catalog and catalog error statuses are set. The CLEAR parameter can only be specified if there is a catalog error on the current tape catalog file and the CF parameter is also specified on the TFSPE command.

TMSDIS 4

TMSDIS 4

The tape display utility TMSDIS can be used as a replacement for the tape-related DSD displays and commands for a system that runs with the Tape Management System (TMS). TMSDIS can be used as an L-display utility from the system console or can be used from nonsystem origin jobs by validated users. To use TMSDIS from a nonsystem origin job, the user must be validated to use the tape file supervisor TFSP.

TMSDIS Command

You call the TMSDIS utility with a command of that same name. The command has both an order-dependent and order-independent format.

Order-dependent format:

```
TMSDIS,idis,mode,infile,outfile,time,NOBELL.
```

Order-independent format:

```
TMSDIS,ID=idis,OP=mode,I=infile,L=outfile,WT=time,NOBELL.
```

Parameter	Description
idis	Initial display. Valid entries for idis are HELP, PRE, EQU, FAM, and JOB. Default is HELP.
mode	Input/output option. Valid entries for mode are:

<blockquote>

L

L display. Valid only from system origin.

LINE

Read commands from input file and write displays to output file.

SCREEN

Read commands from terminal input file and write displays to terminal output file. Displays are refreshed while waiting for input. Input can be entered after entering interruption sequence (user break 1). Valid only from interactive origin.

</blockquote>

Default is L for system origin and LINE for nonsystem origin.

Parameter	Description
infile	Input file name. Ignored for L-display and SCREEN modes. Default is INPUT.
outfile	Output file name. Ignored for SCREEN mode. Default is OUTPUT.
time	Waiting time in seconds before a display is refreshed. Ignored for LINE mode. A value greater than 4095 is converted to 4095. Default is 2 for L-display mode and 10 for SCREEN mode.
NOBELL	Ignored for line and L-display modes. If NOBELL is not specified, a bell sounds at the terminal when the screen is refreshed and when there are preview display entries, family tape catalogs with errors, family tape catalogs with no scratch VSNs, or tape jobs requiring operator action. If NOBELL is specified, the bell does not sound.

TMSDIS Displays

Each TMSDIS display includes a four-line header with MAGNET status, TMS status, the current display name, the current page number, the number of entries in the TMSDIS preview display, the number of tape jobs requiring action, the number of TMS tape catalogs with errors, and the number of TMS tape catalogs with no scratch tapes. Figure 4-1 is an example of the TMSDIS display headers.

```
TMSDIS.     MAG ACTIVE.  TMS ENABLED.  PRE DISPLAY PAGE 1 OF 2.
PREVIEW ENTRIES= 3.  JOBS REQUIRING ACTION= 1.
CATALOGS WITH ERRORS= 0.  CATALOGS WITH NO MT/NT SCRATCH= 2.
CATALOGS WITH NO CT SCRATCH= 2.   CATALOGS WITH NO AT SCRATCH= 2.
```

Figure 4-1. TMSDIS Display Headers

TMSDIS Help Display

The TMSDIS help display lists the TMSDIS input commands. The TMSDIS help display (figures 4-2 and 4-3) is initiated by the HELP command.

```
HELP          DISPLAY VALID COMMANDS.
PRE           DISPLAY RESOURCE REQUESTS.
JOB           DISPLAY TAPE JOBS REQUIRING OPERATOR ACTION.
FAM           DISPLAY *TMS* FAMILY TAPE CATALOG STATUSES.
EQU           DISPLAY TAPE EQUIPMENT STATUSES.
COPY          COPY CURRENT DISPLAY TO OUTPUT FILE.
+N            TOGGLE *N* PAGES FORWARD.
-N            TOGGLE *N* PAGES BACKWARD.
DROP          TERMINATE *TMSDIS*.
```

Figure 4-2. TMSDIS HELP Display (Screen 1 of 2)

```
ASSIGN,JSN,EST    ASSIGN TAPE ON *EST* TO JOB *JSN*.
GO,EST            AUTO BLANK LABEL TAPE ON *EST*.
SCRATCH,EST       DECLARE TAPE ON *EST* AS SCRATCH.
STOP,EST          DO NOT AUTO BLANK LABEL TAPE ON *EST*.
UNLOAD,EST        UNLOAD TAPE ON *EST*.
VSN,EST           CLEAR VSN ON *EST*.
VSN,EST,          DECLARE TAPE ON *EST* AS SCRATCH.
VSN,EST,VSN       DECLARE TAPE ON *EST* TO HAVE VSN OF *VSN*.
+                 TOGGLE PAGE FORWARD.
-                 TOGGLE PAGE BACKWARD.
DROP              TERMINATE *TMSDIS*.
```

Figure 4-3. TMSDIS HELP Display (Screen 2 of 2)

TMSDIS Tape Equipment Display

The TMSDIS tape equipment display lists the status of each tape equipment on the system. The TMSDIS tape equipment display is initiated by the EQU command. Figure 4-4 is an example of the TMSDIS tape equipment display.

```
        EST    VSN     DEN   RING FMT JSN STATUS REEL MD FILE-ID


        NT060 SFTDMP  6250  IN           IDLE   D001 AS
        NT061 ***061  6250  IN           IDLE   0001    UNLABELED.
        NT063 SKDDMP  38000 IN           IDLE   0001 AS
        CT070         OUT                IDLE
        CT071 CTS002  38000 IN           IDLE   0001 AS SUNDAYNOON
        AT100         38000 IN           IDLE
        AT101 C00375  38000 IN   I ABVS  READY  0001 AS TAPE
        CT110         200                DOWN
        CT111         200                DOWN
        CT112         200                DOWN
        CT113         200                DOWN
        AT120         200                DOWN
        AT121         200                DOWN
        AT122         200                DOWN
```

Figure 4-4. TMSDIS Tape Equipment Display

Each entry on this display has the following format.

```
   est   vsn   den   ring   fmt   jsn   status   reel   md   file-id
```

est
Identifies the track type and EST ordinal of the tape unit. The format MTest is used for 7-track tape, NTest is used for 9-track tape, CTest is used for cartridge tape for CTS, and ATest is used for cartridge tape for ACS.

vsn
The physical VSN of the mounted tape. This field contains ***est if the tape does not have a recognizable label.

den
Density in cpi.

ring
Write enable status. IN if write ring in for MT or NT tape or if write enable thumbwheel set correctly for AT or CT tape. Blank if not write-enabled.

fmt
Data format. F for foreign, I for internal, LI for long block internal, L for long block stranger, S for stranger, and SI for system internal.

jsn
Job sequence name of the job the tape unit is assigned to.

status   Status of the tape unit:

           READY
           Job using unit is executing.

           IDLE
           Unit is not being used.

           LOADPT
           Tape is positioned at load point.

           ROLLED
           Job using unit is rolled out.

           DOWN
           Unit has been logically removed from the operating environment.

           NOTRDY
           Unit is not ready or rewinding.

           TFM
           Unit is not ready because of TMS activity.

           PRE
           Operator action is required on unit; check the TMSDIS preview display.

reel   Reel (volume) number currently in use or reel (volume) number of the next tape to be mounted.

md   Conversion mode of the mounted tape:

           blank
           No conversion.

           BC
           BCD (MT).

           AS
           ASCII (NT, CT, or AT).

           EB
           EBCDIC (NT, CT, or AT).

file-id   File identifier obtained from tape label.

TMSDIS Family Catalog Display

The TMSDIS family catalog display lists the status of the TMS tape catalog file for each family on the system. Figure 4-5 is an example of the TMSDIS family catalog display.

FAMILY	MN/NT	SCRATCH	CT	SCRATCH	AT	SCRATCH
STATUS	COUNT	NXT-VSN	COUNT	NXT-VSN	COUNT	NXT-VSN
SFT	0	------	0	------	0	------
NO SCRATCH VSNS.						
SKD	70	TMSB01	7	CTS001	11	C00900
NVE	0	------	0	------	0	------
CATALOG NOT FOUND.						
STST32	0	------	0	------	0	------
CATALOG NOT FOUND.						

Figure 4-5. TMSDIS Family Catalog Display

Each entry on this display has the following format:

```
family      count    nxt-vsn      count    nxt-vsn     count    nxt-vsn
    status
```

family Family name. An asterisk (*) after the family name indicates the tape catalog information processed by TMS is not up-to-date.

count Number of scratch VSNs (MT/NT, CT, or AT) in the tape catalog for this family. Count and next-vsn are grouped according to tape device type (MT/NT, CT, or AT).

nxt-vsn The next scratch VSN of this tape type in the tape catalog for this family. This field is six hyphens (——) if either no scratch tapes are in the tape catalog or if the family does not have a fast-attached tape catalog. Count and next-vsn are grouped according to tape device type (MT/NT, CT, or AT).

status Status message for tape catalog. The status message appears on the second line of each entry on this display. If the tape catalog has an error condition, this field contains the contents of the catalog message buffer.

Status Message	Error Condition
NO SCRATCH VSNS	Scratch count is zero for all tape types.
CATALOG NOT FAST-ATTACHED	Tape catalog exists but has not been fast-attached.
CATALOG NOT FOUND	Tape catalog does not exist.
CATALOG LINKAGE ERROR	The integrity of your database file is questionable.

The family catalogs are ordered in this display as follows:

1. Families with catalog errors

2. Families with no scratch VSNs

3. Families with fast-attached catalogs but no errors

4. Families without fast-attached catalogs

5. Families without catalogs

TMSDIS Executing Job Display

The TMSDIS executing job display identifies jobs that have made tape requests that require operator action. Figure 4-6 is an example of the TMSDIS executing job display.

JSN	USERNAM	FAMILY	MESSAGE
AXYZ	USER16	KTJ	REQUEST – TAPE, GE, VSN001
AGHT	TSUSAAA	TFFAMLY	REQUEST,TAPE,D=PE,LB=KU
AHID	SYSTEMX	KIB	REQUEST – BLKTAPE, GE

Figure 4-6. TMSDIS Executing Job Display

Each entry on this display has the following format:

```
jsn    usernam    family    message
```

jsn   Job sequence name.

usernam   User name of job.

family   Family name of job.

message   Message indicating operator action required.

TMSDIS Preview Display

The TMSDIS preview display identifies tapes and packs required to satisfy resource requests of users. The TMSDIS preview display is initiated by the PRE command. Figure 4-7 is an example of the TMSDIS preview display.

JSN	TMSVSN	STATUS	EQ	PN/VSN	USERNAM	FAMILY	RING	LAB	LEVEL
AEQR	TAPE3	CT040	CT	TAPE3	USER07	KTJ	IN	YES	LVL0
AABK	KTJ001	NT060	GE	KTJ001	USER05	KTJ	OUT	YES	LVL0
		WRONG VSN			GO,EST TO BLNK LABEL				
ABCD	UT0005	NT061	PE	MYTAPE	TSMMMAA	KIB	IN	YES	LVL2
		MOUNT NEXT		TAPE					
AAAQ		MOUNT	DJ1	PACK5	PFUSER	PFFAMLY	---	---	LVL0
ABXJ	*KTJ056	MOUNT	GE	KTJ056	USER10	KTJ	IN	YES	LVL0
AABN	NON-TMS	MOUNT	MT	*TAPE1B=	ASDF246	KCP	OUT	---	LVL7

Figure 4-7. TMSDIS Preview Display

Each entry on this display has the following format:

    jsn   tmsvsn   status   eq   pn/vsn   usernam   family   ring   lab   level

jsn   Job sequence name of the job requesting a resource.

tmsvsn   The logical VSN assigned by TMS. The logical VSN might not be the same as the physical VSN. This field contains blanks for mass storage requests and NON-TMS for tape requests outside of TMS. If the tmsvsn is preceded by an asterisk (*), TMS considers the tape to be off-site.

status   This field contains MOUNT for mass storage requests and for first volume tape requests and the tape equipment type and EST ordinal if an error condition or multivolume request occurs on a tape drive. The following messages may appear in the second line:

        NEEDS LABEL

        NEEDS LABEL   GO,EST TO BLNK LABEL

        ACCESS CONFLICT

        CANNOT ACCESS DATA

        RING CONFLICT

        WRONG VSN

        WRONG VSN   GO,EST TO BLNK LABEL

        DRIV CONFLICT

        DENSITY MISMATCH

        MOUNT NEXT TAPE

eq   Resource type; can be one of the following where i is equal to the number of spindles:

AT	Cartridge for ACS, 38000-cpi tape unit.
CT	Cartridge for CTS, 38000-cpi tape unit.
DB-i	885-42 disk.
DC-i	895 disk.
DD-i	834 disk.
DF-i	887 4K sector disk.
DG-i	836 disk.
DH-i	887 16K sector disk.
DI-i	844-21 half-track disk.
DJ-i	844-41/44 half-track disk.
DK-i	844-21 full-track disk.
DL-i	844-41/44 full-track disk.
DM-i	885-11/12 half-track disk.
DN	9853 disk.
DQ-i	885-11/12 full-track disk.
EA-i	5830 Disk Array Subsystem; one 5832 Solid State Disk (SSD) drive used in serial mode.
EB-i	5830 Disk Array Subsystem; two 5832 SSD drives used in parallel mode.
EC-i	5830 Disk Array Subsystem; one 5833 SABRE drive used in serial mode.
ED-i	5830 Disk Array Subsystem; two 5833 SABRE drives: one for data and one for parity.
EE-i	5830 Disk Array Subsystem; two 5833 SABRE drives used in parallel mode.
EF-i	5830 Disk Array Subsystem; three 5833 SABRE drives: two for data and one for parity.
GE	9-track, 6250-cpi tape unit.
HD	9-track, 800-cpi tape unit.
MT	7-track magnetic tape unit.
PE	9-track, 1600-cpi tape unit.

pn/vsn   1- to 7-character auxiliary pack name or a 1- to 6-character physical VSN. If the pack name or VSN is preceded by an asterisk (*), a device that is correctly off is required to satisfy this request. If the VSN has been equivalenced by the user in the tape request, an equal sign (=) appears as the seventh character.

usernam   User name of the job.

family   Family name of the job.

ring   Write enable status. IN if write ring in for MT or NT tape or if write enable thumbwheel set correctly for AT or CT tape. Blank if not write-enabled.

lab   Magnetic tape label requirements:

         YES   A labeled tape is required.

         blank   No label is required.

level   Access level of the file being requested. The tape assigned must allow this access level. This field appears on secured systems only.

TMSDIS Input Commands

TMSDIS commands are entered one per input line. The maximum number of characters processed for an input line is 77. An input line can be terminated by a period. Any characters following the period are ignored. If a parameter requires special characters, the parameter can be dollar sign ($) delimited. For example, suppose VSN A$BD+E is to be assigned to the tape on equipment 65:

    VSN,65,$A$$BD+E$.

The following is a list of valid TMSDIS input commands:

Command	Description
ASSIGN,jsn,est.	Assigns a tape or null equipment defined by EST ordinal est to the job with job sequence name jsn. This command is entered in response to a REQUEST message in the JOB display.
COPY.	Copies the current display to the output file. This command is ignored for screen mode.
EQU.	Initiates the TMSDIS tape equipment display.
FAM.	Initiates the TMSDIS family catalog display.
GO,est.	Causes the tape on the tape unit defined by EST ordinal est to be automatically blank labeled so it can be assigned to the job. This command is entered in response to one of the following status messages in the PRE display:

         NEEDS LABEL   GO,EST TO BLNK LABEL

         WRONG VSN   GO,EST TO BLNK LABEL

If the tape should not be blank labeled, enter the STOP,est. command to unload the tape.

Command	Description
HELP.	Initiates the TMSDIS help display.
JOB.	Initiates the TMSDIS executing job display.
+n.	Toggles the display n pages forward. Default is 1.
−n.	Toggles the display n pages backward. Default is 1.
PRE.	Initiates the TMSDIS preview display.

Command	Description
SCRATCH,est.	Declares the tape mounted on an unassigned tape unit defined by EST ordinal est to be a scratch tape. This command enables a tape to be available to satisfy scratch VSN requests and still be assigned to its original VSN. The VSN defined on the tape is not redefined as scratch although the VSN appears as SCRATCH in the TMSDIS tape equipment display.
STOP,est.	Prevents the tape on the tape unit defined by EST ordinal est from being automatically blank labeled and unloads the tape. This command is entered in response to one of the following status messages in the TMSDIS preview display:

```
NEEDS LABEL          GO,EST TO BLNK LABEL

WRONG VSN            GO,EST TO BLNK LABEL
```

	If the tape should be blank labeled, enter the GO,est. command.
UNLOAD,est.	Physically unloads the tape mounted on the unassigned tape unit defined by EST ordinal est. This command is ignored if the tape unit is assigned to a job.
VSN,est.	Clears the VSN assigned by the VSN,est,. or VSN,est,vsn. command on an unassigned tape unit defined by EST ordinal est. This command must be issued before a second VSN,est,. or VSN,est,vsn. command is issued for a tape unit.
VSN,est,.	Declares the tape mounted on an unassigned tape unit defined by EST ordinal est to be a scratch tape. This command is the same as SCRATCH,est. if the tape is unlabeled or if the tape is not written on. If a labeled tape is written on, the VSN in the volume 1 label of the tape is rewritten as a scratch VSN and the VSN appears as ***est (est is the ordinal of the tape unit) in the LDISTAT tape equipment display. This command is ignored if the tape unit is assigned to a job or if a VSN,est,. or VSN,est,vsn. command has previously been entered. To clear the effect of a previous VSN,est,. command, enter the VSN,est. command.
VSN,est,vsn.	Assigns VSN vsn to an unassigned tape unit defined by EST ordinal est. This command is used so that a tape unit can be assigned to a job that requests an unlabeled tape with a VSN. This command is ignored if the tape unit is assigned to a job, if the tape is labeled, or if a VSN,est,. or VSN,est,vsn. command has previously been entered. To clear the effect of a previous VSN,est,vsn. command, enter the VSN,est. command.

TMS Procedures Installation Parameters   5

TMS provides a series of procedures that allows you to perform various functions with a tape catalog file:

Procedure	Description
TMSDBLD	Recovers a TMS tape catalog file.
TMSRBLD	Rebuilds a tape catalog file.
TMSDUMP	Dumps a tape catalog file to a different device.
TMSLOAD	Reloads a family's tape catalog file from a different device.

You must add the following directive to the LIBDECK on your deadstart tape if TMS procedures are to run correctly:

```
*PROC TMSDBLD,TMSDUMP,TMSLOAD,TMSRBLD
```

TMSDBLD

This procedure uses the account file to generate TFSP directives that can be used to recover a TMS tape catalog file. The procedure must be called from a system origin job.

Format:

```
TMSDBLD,family,afn,dfn,stime,etime,SAM,EAM.
```

Parameter	Description
family	Name of the family used to build directives. This parameter is required.
afn	Local file name of the file with TMS recovery messages. If not specified, the current account file is used.
dfn	Local file name of TFSP directive file. Default is DIRFILE. If dfn is not an empty file, the TFSP directives are copied at the end of the file.
stime	Starting time to begin reading account file. Format is hhmmss. If not specified, the account file is read from the beginning.
etime	Ending time to complete reading account file. Format is hhmmss. If not specified, the account file is read to the end.
SAM	If specified, the starting time is after midnight in the account file.
EAM	If specified, the ending time is after midnight in the account file.

The calling job exits at user index 377777_8 of the family.

The following local file names are used by TMSDBLD:

    ACCFILE
    DIRFILE
    FAMNAME

The following message is issued to the A,OPERATOR display if TMSDBLD is unsuccessful:

    TMSDBLD ABORTED, SEE DAYFILE.

TMSRBLD

This procedure can be used to rebuild a tape catalog file given an old tape catalog file and a TFSP directive file. The procedure must be called from a system origin job.

Format:

    TMSRBLD,family,ofn,nfn,dfn.

Parameter	Description
family	Family name of the tape catalog file to rebuild. This parameter is required.
ofn	Local file name of the old tape catalog file that is rebuilt. If not specified, the direct-access file ZZZZZFC on user index 377777_8 of the family is used. ZZZZZFC must not be a fast-attached file when TMSRBLD is called.
nfn	Local file name of the rebuilt tape catalog file. Default is NEW. The ofn and nfn parameters may have the same name.
dfn	Local file name of the TFSP directive input file to apply against the old tape catalog file. Default is DIRFILE.

The calling job exits at user index 377777_8 of the family.

The local file name ZZZZZFC is used by TMSRBLD.

The following message is issued to the A,OPERATOR display if TMSRBLD is unsuccessful:

    TMSRBLD ABORTED, SEE DAYFILE.

TMSDUMP

This procedure uses PFDUMP to dump a family's tape catalog file to a different device. The procedure must be called from a system origin job.

Format:

```
TMSDUMP,family,dfm,dui,dpf.
```

Parameter	Description
family	Family name of the tape catalog file to dump. This parameter is required.
dfm	Name of the family to receive the dump file. Default is the same as the family of the tape catalog file.
dui	User index to receive the dump file. Default is 377777_8.
dpf	Name of the direct access file to receive the dump. If not specified, the dump is copied to local file TAPE.

The calling job exits at user index 377777_8 of the family.

The local file name TAPE is used by TMSDUMP.

The following message is issued to the A,OPERATOR display if TMSDUMP is unsuccessful:

```
TMSDUMP ABORTED, SEE DAYFILE.
```

TMSLOAD

This procedure uses PFLOAD to reload a family's tape catalog file from a different device. The procedure must be called from a system origin job.

Format:

```
TMSLOAD,family,dfm,dui,dpf.
```

Parameter	Description
family	Family name of the tape catalog file to reload. This parameter is required.
dfm	Name of the family that has the dump file. Default is the same as the family of the tape catalog file.
dui	User index that has the dump file. Default is 377777_8.
dpf	Name of the direct access file that has the dump. If not specified, the local file TAPE is assumed to be the dumpfile.

The calling job exits at user index 377777_8 of the family.

The local file name TAPE is used by TMSLOAD.

The following message is issued to the A,OPERATOR display if TMSLOAD is unsuccessful:

```
TMSLOAD ABORTED, SEE DAYFILE.
```

COMSTFM Installation Parameters

The COMSTFM installation parameters are as follows:

Value	Default	Line Number	Description
CRDP	7	T4984.1	Number of days that will pass before a conditionally released tape becomes unconditionally released. (An unconditionally released tape is available as a scratch VSN.) If CRDP has a value of zero (0), all tape releases are unconditional.
REMT	4095	584	Number of recovered tape errors a VSN can have before hold for maintenance status is set on the VSN. When a VSN is in hold status, it is not available as a scratch tape. If REMT has a value of zero (0), the system ignores the number of recovered errors.
TMSG	ACFN	638	Destination of TMS recovery messages. A value of ACFN specifies the account dayfile. A value of ERLN specifies the error log. A value of zero (0) specifies that no TMS recovery messages are to be issued.
VUMT	63	585	Number of times a user can access a VSN before hold for maintenance status is set on the VSN. When a VSN is in hold status, it is not available as a scratch tape. If VUMT has a value of zero (0), the system ignores the number of user accesses.

Conditional Release Delay Period

A conditional release delay period can be set up to cause a delay between when a user releases a tape and when the tape returns to the scratch pool (is unconditionally released). The conditional release delay period is defined by the symbol CRDP in common deck COMSTFM. A conditionally released tape is unconditionally released if the following equation is true:

```
Current Date - Release Date ≥ CRDP
```

If the site is running with conditional user release, a user may make a request to site personnel to restore a conditionally released tape file. The user is required to inform site personnel whether the tape file to be restored should be symbolic or nonsymbolic.

When the TMSON command is used to make the family tape catalog file a fast-attached file and when the TFSP ISV directive is used to initialize scratch VSNs, the system unconditionally releases all tape files that have been conditionally released for more than the conditional release delay period.

Appendixes

This appendix contains a sorted listing of all TMS messages that could be of importance to the operator. Each message is followed by an explanation of the message and/or the circumstances causing it to be issued, the recommended operator action, and the routine that issued the message.

Lowercase letters are used within a message to identify fields that are variable. All messages beginning with lowercase (variable) fields are listed alphabetically according to the first nonvariable field.

ABNORMAL TERMINATION, ERROR CODE = nn.

Description: The system returned an error nn that TFSP could not recognize. If this message is issued, contact a knowledgeable person at your site.

Issued by TFSP.

User Action: Contact a knowledgeable person at your site.

xxxxxxx ACTIVITY SUSPENDED.

Description: Temporary interruption of tape catalog activity.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

xxxxxxx ALREADY RESERVED.

Description: When creating a new symbolic access file, the file was found in the user's catalog.

Issued by TFM.

User Action: Try another file name.

ALTERNATE USER ADMIT UPDATED.

Description: The admit entry for a previously admitted alternate user has been updated using the ADMIT directive.

Issued by TFSP.

User Action: Informative message.

ALTERNATE USER ADMITTED.

Description: A new alternate user has been admitted using the ADMIT directive.

Issued by TFSP.

User Action: Informative message.

ALTERNATE USER CURRENTLY IS ADMITTED.

Description: The user name specified by the AUDER directive has been admitted previously.

Issued by TFSP.

User Action: Informative message.

ALTERNATE USER NOT CURRENTLY ADMITTED.

Description: The user name specified by the AUSER directive has not been previously admitted.

Issued by TFSP.

User Action: Informative message.

ALTERNATE USER NOT PROCESSED.

Description: An alternate user DROP directive has been issued.

Issued by TFSP.

User Action: Informative message.

BUFFER ARGUMENT ERROR.

Description: The buffer pointers are invalid or out of range.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

CANNOT CHANGE TAPE TYPE/DENSITY

Description: Either an attempt was made to change the tape type of a VSN entry already in the catalog, or an attempt was made to change the density of a tape file assigned VSNs and the new density implied a change in tape type.

User Action: It is not possible to change an existing VSN or tape file in this way. To define a VSN or tape file with this attribute, first delete the existing entry and then create a new VSN or tape file.

CANNOT CHANGE SYSTEM VSN FLAG

Description: An attempt was made to change the system VSN flag of a VSN entry already in the catalog.

User Action: It is not possible to change an existing VSN entry in this way. To define a VSN or tape file with this attribute, first delete the existing entry and then create a new entry.

xxxxxxx CATALOG ERROR.

Description: Family xxxxxxxx tape catalog is unusable.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

CATALOG ERROR REQUIRED WITH *CLEAR*.

Description: The TFSPE command was issued with the clear parameter for a tape catalog file that did not have a tape catalog error.

Issued by TFSP.

User Action: Try a tape catalog file on another family.

CATALOG LINKAGE ERROR.

Description: TFM internal error.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

xxxxxxx CATALOG NOT FOUND.

Description: TMS is enabled but the family xxxxxxx tape catalog could not be found.

Issued by TFM.

User Action: Contact central site to find out when catalog will be available.

CF PARAMETER REQUIRED WITH *CLEAR*.

Description: The TFSPE command was issued with the clear parameter but without the CF parameter.

Issued by TFSP.

User Action: Add the CF=filenam parameter to the TFSPE command.

DEADLOCK.

Description: An attempt was made to access a file that is currently assigned to this job and interlocked busy.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

DIRECTIVE ERRORS.

Description: Errors were encountered while processing the directives. Consult the output listing for reason.

Issued by TFSP.

User Action: Correct and rerun.

EMPTY CATALOG.

Description: Audit of the users catalog where none exists.

Issued by TFM.

User Action: None.

EMPTY TAPE CATALOG FILE.

Description: The file specified by the P parameter is a zero-length file.

Issued by TFSP.

User Action: Make the tape catalog file local.

EOI NOT ON TRACK CHAIN.

Description: Cannot locate end of information when extending the catalog.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

ERRONEOUS BUFFER POINTER.

Description: TFM internal error.

Issued by TFM.

User Action: Contact central site to find out when TMS will be enabled.

ERROR ASSIGNED VSNS AT MAXIMUM.

Description: An attempt was made to assign more than 60 vsns to a tape file or to assign a vsn to a tape file that was not the last file of a multifile set.

Issued by TFSP.

User Action: Do not assign vsn to this.

ERROR DATA FIELD ERROR.

Description: The data specified with the directive is not valid for that directive.

Issued by TFSP.

User Action: Correct and retry.

ERROR DIRECTIVE INCORRECT FROM CURRENT LEVEL.

Description: The directive is valid only on the level in which it is defined and it was issued from a lower level.

Issued by TFSP.

User Action: Correct and retry.

ERROR FILE ALREADY RESERVED.

Description: An attempt was made to issue the RESERVE directive for a tape file that already was reserved.

Issued by TFSP.

User Action: Use the AMEND directive.

ERROR FILE BUSY.

Description: The tape file entry specified by the FILE or FILEV directive is in use and cannot be accessed at this time.

Issued by TFSP.

User Action: Try again later.

ERROR FILE IDENTIFIER CONFLICT.

Description: The file identifier specified by the Fl directive is the same as the file identifier for another of the symbolic access files of the user.

Issued by TFSP.

User Action: Use another file identifier.

ERROR FILE NAME CONFLICT.

Description: The file name specified by the READ directive is the same as a file used by one of the command parameters.

Issued by TFSP.

User Action: Correct and retry.

ERROR FILE NOT IN CATALOG.

Description: The tape file specified by the RELEASF or RELEASV directive is not among the tape files of the user.

Issued by TFSP.

User Action: Use AUDITON directive to check valid vsn and/or file identifiers.

ERROR FILE NOT RESERVED.

Description: An attempt was made to issue the AUSER or AMEND directive for a tape file that is not yet reserved.

Issued by TFSP.

User Action: Use the RESERVR directive.

ERROR IN CATALOG DATA.

Description: The catalog entry data contains information which does not pass validation.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

ERROR IN FILE DATA.

Description: An attempt was made to access a tape file that has an unrecovered read/write error or non-matching tape label information between the tape label and the tape catalog.

Issued by TFM.

User Action: Correct error condition and retry.

ERROR IN INDEX DATA.

Description: The catalog VSN or username index is in error.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

ERROR INCORRECT DIRECTIVE.

Description: Either the directive is not a TFSP directive or it cannot be issued at this point in the directive stream.

Issued by TFSP.

User Action: Correct and retry.

ERROR INCORRECT SEQUENCE NUMBER.

Description: The sequence number specified by the FILEV directive is too large.

Issued by TFSP.

User Action: Use a smaller sequence number.

ERROR NO SCRATCH AVAILABLE.

Description: An attempt was made to assign the next scratch tape but there are no scratch tapes left in the catalog.

Issued by TFSP.

User Action: Add new scratch vsns.

ERROR NON-MATCHING STATUSES.

Description: The status of the vsn specified by the AVSN directive does not match the status of the first vsn of the tape file.

Issued by TFSP.

User Action: Use a different vsn or change vsn status.

ERROR READ DIRECTIVE INVALID.

Description: An attempt was made to issue the READ directive from the file being read by a previous READ directive.

Issued by TFSP.

User Action: Issue read directly from input file.

ERROR REQUIRED DATA MISSING.

Description: An attempt was made to reserve a tape file entry without a vsn.

Issued by TFSP.

User Action: Correct and retry.

ERROR VALIDATED USERS AT MAXIMUM.

Description: An attempt was made to add a ninth validated user via the VALIDAT directive.

Issued by TFSP.

User Action: Delete a validated user with the incorrect directive.

ERROR VSN ALREADY ASSIGNED.

Description: The VSN specified by a REMOVE or AVSN directive is assigned to a tape file entry.

Issued by TFSP.

User Action: Try another vsn.

ERROR VSN ALREADY IN CATALOG.

Description: An attempt was made to issue the ADD directive for a vsn that had already been added to the tape catalog file.

Issued by TFSP.

User Action: Use the REVISR directive.

ERROR VSN ALREADY RESERVED BY USERNAM.

Description: The vsn specified by the VSN directive is assigned to a tape file of user name usernam.

Issued by TFSP.

User Action: Try another VSN.

ERROR VSN BUSY.

Description: The vsn specified by the VSN or AVSN directive is in use and cannot be accessed at this time.

Issued by TFSP.

User Action: Try again later.

ERROR VSN NOT ADDED TO CATALOG.

Description: An attempt was made to issue the REVISE directive for a vsn that had not yet been added to the tape catalog file.

Issued by TFSP.

User Action: Use the add directive.

ERROR VSN NOT ADDED TO FILE.

Description: The vsn specified by the RELEASE directive is not assigned to a tape file.

Issued by TFSP.

User Action: Use AUDITVS directive to check status of vsns.

ERROR VSN NOT AVAILABLE.

Description: The vsn specified by the FILEV directive is either not in the tape catalog or is assigned to another user.

Issued by TFSP.

User Action: Use AUDITVS directive to check status of vsns.

ERROR VSN NOT IN CATALOG.

Description: The vsn specified by a PURGE, RELEASE, or AVSN directive is not in the tape catalog file.

Issued by TFSP.

User Action: Try another vsn.

FAMILY NOT ACTIVE.

Description: A fast-attached file named ZZZZZFC was not found on the family.

Issued by TFSP.

User Action: Try IFS,E=ZZZZZFC on that family.

FAMILY NOT FOUND.

Description: The specified family on the TMSON or TMSOFF command is not active on the system.

Issued by LDISTAP.

User Action: Use a different family name or mount the device with that family name.

FILE AMENDED.

Description: The AMEND directive has been issued for a tape file that previously was reserved.

Issued by TFSP.

User Action: Informative message.

FILE CURRENTLY IS RESERVED.

Description: The tape file specified by the FILE directive has been previously reserved.

Issued by TFSP.

User Action: Informative message.

FILE NAME CONFLICT - LFN.

Description: Specified file used for more than one purpose. Only the P and N parameters can specify the same file name.

Issued by TFSP.

User Action: Correct and retry.

FILE NOT CURRENTLY RESERVED.

Description: The tape file specified by the FILE directive has not been previously reserved.

Issued by TFSP.

User Action: Informative message.

FILE NOT PROCESSED.

Description: The file level DROP directive has been issued.

Issued by TFSP.

User Action: Informative message.

FILE RELEASED.

Description: The RELEASE, RELEASF, or RELEASV directive has completed.

Issued by TFSP.

User Action: Informative message.

FILE RESERVED.

Description: The RESERVED directive has been issued for a tape file that previouly was not reserved.

Issued by TFSP.

User Action: Informative message.

I PARAMETER IGNORED.

Description: First message issued whenever TFSP is run with the OP=K or OP=Z option.

Issued by TFSP.

User Action: Informative message.

IAUM/SFBM COMPARE ERROR.

Description: TFM internal error.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

INCORRECT ACCESS.

Description: User who was not validated attempted to access the family tape catalog file.

Issued by TFSP.

User Action: Run at system origin or from a valid user name.

INCORRECT COMMAND.

Description: TMSON or TMSOFF was called by a non-system origin job or a user that is not validated for TFSP attempted to use TMSDIS from a non-system origin job.

Issued by LDISTAP.

User Action: Issue the command from system origin or from different user name.

INCORRECT EST PARAMETER

Description: The EST parameter specified for an ASSIGN command was not an EST ordinal of a tape or null equipment.

Issued by LDISTAP.

User Action: Correct and retry.

INCORRECT INCREMENT.

Description: The page increment specified with the + or - command was not a number.

Issued by LDISTAP.

User Action: Correct and retry.

INCORRECT JSN PARAMETER.

Description: The JSN parameter specified for an ASSIGN command was not a 3- or 4-character job sequence number.

Issued by LDISTAP.

User Action: Correct and retry.

INCORRECT OPTION - OP.

Description: The specified option is not allowed with the OP parameter.

Issued by TFSP.

User Action: Correct and rerun.

INCORRECT TAPE EST PARAMETER.

Description: The EST parameter specified for a GO, SCRATCH, STOP, or VSN command was not an EST ordinal of a tape equipment. This message can also be issued for the VSN,EST,. or VSN,EST,VSN. command if the tape on equipment EST is labeled or if a previous VSN, EST,. or VSN,EST,VSN. command has not been cleared by a VSN,EST. command.

Issued by LDISTAP.

User Action: Check the EQU display to identify the tape EST ordinals.

INCORRECT VALUE FOR PP PARAMETER - vvvvvvv.

Description: The value vvvvvvv cannot be used for parameter PP on the TMSON, TMSOFF, or TMSDIS command.

Issued by LDISTAP.

User Action: Correct and retry.

INCORRECT VSN PARAMETER.

Description: The VSN parameter specified for a VSN command was not a 1- to 6-character vsn.

Issued by LDISTAP.

User Action: Correct and retry.

JOB NOT REQUESTING RESOURCE.

Description: The job specified by the JSN parameter for the ASSIGN command was not at a control point requesting a resource assignment.

Issued by LDISTAP.

User Action: Check the job display to find the jsn of the job requesting a resource.

L-DISPLAY NOT AVAILABLE.

Description: TMSDIS cannot use L-display mode at this time because another job has interlocked the L-display.

Issued by LDISTAP.

User Action: Terminate the current L-display utility.

LAST COMMAND.

Description: Indicates last command processed without errors.

Issued by LDISTAP.

User Action: None.

LINKED CATALOG NOT ACCESSIBLE.

Description: The linked catalog cannot be accessed from the current family.

Issued by TFM.

User Action: Check the family name specified. Call customer services for status information if family name is correct.

MAGNET NOT ACTIVE.

Description: The GO, SCRATCH, STOP, UNLOAD, or VSN command was issued when magnet was not active.

Issued by LDISTAP.

User Action: Bring up the MAG subsystem.

MASS STORAGE ERROR.

Description: Mass storage read or write error on the catalog.

Issued by TFM.

User Action: Contact a knowledgeable person at your site.

MULTIFILE PROCESSING ERROR.

Description: Multi-file request or unlabeled tape.

Multi-file request of file with nonstandard labels.

Issued by TFM.

User Action: Use non-multi-file processing.

NO ADMITS.

Description: Audit of alternate access user's produced an empty file.

Issued by TFM.

User Action: None.

NO EXTEND OF USER-OWNED FILE.

Description: End of table on write to a user-owned file and no next vsn could be found.

Issued by TFM.

User Action: Contact central site to add a user-owned volume.

NO SCRATCH TAPES.

Description: The tape scratch count is zero.

Issued by TFM.

User Action: Add scratch tapes to your database.

filenam NOT FOUND.

Description: Local file name filenam used in conjunction with GETVSN or RESERVE was not found in the system or was found assigned to another job.

Issued by TFM.

User Action: Try another file name.

xxxxxxx NOT FOUND.

Description: For a selective audit of an admitted user, the user name could not be located in the audit entries associated with the file.

Issued by TFM.

User Action: Try another user name.

xxxxxxx NOT FOUND.

Description: When accessing a file by file name, it could not be found in the user's catalog or an alternate user did not have permission to access the file.

Issued by TFM.

User Action: Try another file name.

filenam NOT ON MAGNETIC TAPE.

Description: The local file name filenam, used in conjunction with GETVSN or RESERVE, was located and assigned to the job but is not magnetic tape equipment.

Issued by TFM.

User Action: Try another file name.

P AND N PARAMETERS IGNORED.

Description: First message issued whenever TFSP is not run in local file (LF) mode.

Issued by TFSP.

User Action: Informative message.

PARAMETER ERROR - PARAM.

Description: The specified parameter is not a TFSP parameter.

Issued by TFSP.

User Action: Correct and rerun.

PREMATURE END OF FILE, filenam.

Description: A null input line was found while reading directives from file filenam.

Issued by TFSP.

User Action: Informative message.

PROCESSING.

Description: Indicates current command is being processed.

   Issued by LDISTAP.

User Action: None.

xxxxxxxx RANDOM ACCESS ERROR.

Description: TFM internal error. Relative disk address xxxxxxxx is not within the bounds of the catalog.

   Issued by TFM.

User Action: Contact a knowledgeable person at your site.

SYSTEM VSN CANNOT BE USER-OWNED

Description: Either an attempt was made to change the ownership of a VSN entry from CENTER to USER for a VSN entry with the system VSN flag set, or an attempt was made to set the system VSN flag for a user-owned VSN entry.

User Action: Do not attempt to do this.

TAPE CATALOG FILE INTERLOCKED.

Description: Another TFSP job is accessing the tape catalog file of the family.

   Issued by TFSP.

User Action: Try again later.

TFM INCORRECT REQUEST.

Description: The request did not pass validation. One of the following condition exists.

   ADMIT of user name of the files owner.

   ADMIT request with invalid access mode.

   ADMIT request of public access file.

   AUDIT request with invalid search type.

   GETVSN or RESERVE request of a non-TMS controlled file.

   AMEND request with invalid list attribute.

   AMEND request with invalid file category.

   AMEND request with invalid access mode.

   ADMIT, AMEND, and RESERVE require the first volume of a multivolume set to be specified.

   Issued by TFM.

User Action: Correct and retry.

TFM UTILITY ACTIVE.

Description: Catalog interlocked by TFSP.

   Issued by TFM.

User Action: Try again later.

TFSP ABORTED.

Description: Control point error flag is set. Consult dayfile listing for reason.

   Issued by TFSP.

User Action: Correct and rerun.

TFSP COMPLETE.

Description: TFSP normal completion.

Issued by TFSP.

User Action: None.

TFU - ARGUMENT ERROR.

Description: The parameter specified in the lower 24 bits of the request is not in the correct format for the function. For example, a parameter block address may be outside the field length of the calling program.

Issued by TFU.

User Action: Correct and retry.

TFU - INCORRECT REQUEST.

Description: The function number specified is not recognized by TFU.

Issued by TFU.

User Action: Correct and retry.

TFU - USER ACCESS NOT VALID.

Description: The function requested requires special privileges that the calling program does not have. For example, the function may require an SSJ= entry point.

Issued by TFU.

User Action: Try another function.

TMS DISABLED.

Description: The tape file manager was called with TMS disabled.

Issued by TFM.

User Action: Correct and retry.

TMS PROCESSING INHIBITED.

Description: Assignment request by a system origin job and no TO=T specified.

Assignment request by a nonsystem origin job and TO=F specified.

Issued by TFM.

User Action: None.

TMSDIS COMPLETE.

Description: TMSDIS normal termination.

Issued by LDISTAP.

User Action: None.

TOO MANY PARAMETERS.

Description: More parameters were specified than the command allows.

Issued by LDISTAP.

User Action: Correct and retry.

UNABLE TO PROCESS REQUEST.

Description: Because of system activity the GO, SCRATCH, STOP, UNLOAD, or VSN commands cannot be processed at this time.

Issued by LDISTAP.

User Action: Try again later.

UNABLE TO TURN OFF *TMS* CATALOG FOR ffffff.

Description: The TMS catalog for family ffffff cannot be turned off at this time.

Issued by LDISTAP.

User Action: Ensure that there is no activity on the family.

UNABLE TO TURN ON *TMS* CATALOG FOR ffffff.

Description: The TMS catalog for family ffffff cannot be turned on at this time.

Issued by LDISTAP.

User Action: Ensure that direct-access file ZZZZZFC exists on user index.

UNEXPECTED TAPE CATALOG ERROR.

Description: The PP program TFM returned an error code that TFSP was not expecting. If this message is issued while working on a fast-attached tape catalog file, contact a knowledgeable person at your site.

Issued by TFSP.

User Action: Contact a knowledgeable person at your site.

UNKNOWN COMMAND.

Description: The command specified cannot be processed by TMSDIS.

Issued by LDISTAP.

User Action: Correct and retry.

UNKNOWN PARAMETER - PP.

Description: The parameter PP cannot be processed by the TMSON, TMSOFF, or TMSDIS command.

Issued by LDISTAP.

User Action: Correct and retry.

USER LEVEL COMPLETE.

Description: The user level DROP directive has been issued.

Issued by TFSP.

User Action: Informative message.

VSN ADDED TO CATALOG.

Description: The ADD directive has been issued for a VSN that has not been previously added to the tape catalog file. the tape catalog file.

Issued by TFSP.

User Action: Informative message.

VSN xxxxxx BUSY.

Description: The VSN requested, or a vsn that is part of a multifile set is currently assigned to another job.

Issued by TFM.

User Action: Try again later.

VSN CURRENTLY IN CATALOG.

Description: The VSN specified by the VSN directive has previously been added to the tape catalog file.

Issued by TFSP.

User Action: Informative message.

VSN INTERLOCKED. JSN IS jsn.

Description: The VSN specified by the VSN directive is being requested. The jsn of the job requesting the tape is given.

Issued by TFSP.

User Action: Informative message.

VSN NOT CURRENTLY IN CATALOG.

Description: The VSN specified by the VSN directive has not been previously added to the tape catalog file.

Issued by TFSP.

User Action: Informative message.

VSN NOT PROCESSED.

Description: The VSN level DROP directive has been issued.

Issued by TFSP.

User Action: Informative message.

VSN REMOVED FROM CATALOG.

Description: The REMOVE directive has completed.

Issued by TFSP.

User Action: Informative message.

VSN REVISED.

Description: The REVISE directive has been issued for a VSN that has been previously added to the tape catalog file.

Issued by TFSP.

User Action: Informative message.

WAIT SCRATCH ASSIGNMENT.

Description: Request for scratch and none could be found.

Issued by TFM.

User Action: Wait until scratch is assigned.

WRITE REQUEST ON READ-ONLY FILE.

Description: Alternate user attempting to write to a file with read only mode.

Issued by TFM.

User Action: Contact file originator.

Account Dayfile Messages

The following messages can be issued to the account file by TMS. These messages are used by the TMS recovery procedures TMSDBLD and TMSRBLD to rebuild TMS catalog files and appear whenever any of the following actions take place.

Message	Description
SDAD , family, vsn, prn, ssssss.	VSN is added to a tape catalog file.
SDAM , family, usernam, fvsn, ssssss.	Tape file is amended.
SDAU , family/usernam/seqno/fvsn, vsn.	VSN is assigned to a tape file of a user.
SDCR , family/usernam/seqno/fvsn.	Tape file is unconditionally released.
SDCR , family/usernam/seqno/fvsn, .	Conditional release date is cleared from a tape file.
SDCR , family/usernam/seqno/fvsn, yy/mm/dd.	Tape file is conditionally released.
SDRA , family/usernam/seqno/vsn, tfd/passwor.	Tape file is reserved or amended.
SDRA , family/usernam/seqno/vsn, tfd.	Tape file is reserved or amended and password is null.
SDRB , familyw[1]logical-file-idntx[2] physical-file-idt.	Tape file is reserved or amended.
SDRC , family/controlwrdy[3]/chrgnumber, mulsidz.[4]	Tape file is reserved or amended.
SDRM , family, vsn.	VSN is removed from a tape catalog file.
SDRV , family, vsn, prn, ssssss.	VSN is revised in a tape catalog file.

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1. w is the character susbtituted for the colon after family identifier.
2. x is the character susbtituted for the colon after logical-file-idnt.
3. y is the character susbtituted for the colon after controlwrd.
4. z is the character susbtituted for the colon after mulsid.

The variable fields of the previous messages have the following meanings:

Field	Description
chrgnumber	Owner charge number of VSN.
controlwrd	Control word for VSN.
family	Family name of tape catalog file.
fvsn	First VSN of the tape file.
logical-file-idnt	Logical file identifier for symbolic access tape.
mulsid	Multiset identifier for symbolic access tape.
passwor	Password assigned to the tape file.
physical-file-idt	Physical file identifier for symbolic access tape.
prn	Physical reel number of VSN.
seqno	Sequence number of the tape file that the VSN was assigned to or the tape file that was released.
ssssss	6-digit octal number representing VSN status:

	000002	Read/write error detected.
	000010	VSN transferred off-site.
	010000	User-owned file volume.
	200000	Hold for maintenance.

Field	Description
tfd	Three characters of encoded data for the tape label type, track and density, data conversion mode, and tape format.
usernam	User name of the owner of the tape file.
vsn	VSN that is assigned, added, removed, or revised.
yy/mm/dd	Date that a tape file was conditionally released.

NOTE

These messages are not issued when TFSP is running in local file (LF) mode.

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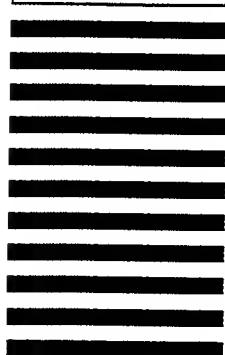
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Please send program listing and output if applicable to your comment.